TO- Don Ward

GRAIN QUALITY:
POSITIONING OURSELVES FOR THE FUTURE

IOWA QUALITY GRAIN STUDY

FINAL REPORT

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This report is prepared and submitted in accordance with the requirements set forth in Contract AMB-009 dated April 16, 1987, between the Iowa Department of Economic Development and Evans & Associates.

PURPOSE OF THE STUDY

The basic goal of Iowa is to strengthen the competitiveness of Iowa grain in both domestic and foreign markets. Therefore, Iowa producers and policymakers in this study seek to identify and define reasonable roles for the State of Iowa to perform in improving the quality of grain available from Iowa and in expanding both domestic and foreign markets for Iowa grain.

INTRODUCTION

* IMPORTANCE OF STATE INVOLVEMENT IN AGRICULTURE.

State government must never lose sight of the fact that Iowa agriculture is a vital renewable resource to be nourished, not merely a major tax source to be taken for granted.

American agriculture is now facing critical challenge and revolutionary change. In recent years the American automotive and steel industries faced such challenge and failed the test by not remaining competitive. We must not let that happen to Iowa's most basic industry.

There should be no illusions in state government. This will require a major, continuous reinvestment of a larger share of the revenues the State has grown accustomed to receiving from agriculture and spending for other purposes.

* NO MAGIC SOLUTIONS.

Quite naturally political leaders search hopefully for a simple, low-cost, dramatic solution to each serious problem. Few are ever found. Certainly during this study

no magic solution was found for the problems of grain quality and marketing. None are suggested in this report.

The report does outline a number of relatively undramatic actions that could be taken by the State of Iowa. Collectively, over a period of time, these would contribute substantially to resolving the problem. This would benefit both end users and producers.

Most important, the report describes the direction of change that is beginning to transform the grain industry as it moves into a new age of marketing.

A significant contribution of the report may be to minimize the potential for costly errors by the State. In a time when the competition for scarce resources is great it is essential to make spending decisions carefully and to target resources to areas where the probability of actually contributing to solutions is greatest.

Section I. EXECUTIVE SUMMARY.

TECHNICAL ASPECTS OF THE GRAIN QUALITY PROBLEM.

* Many foreign customers of our grains are dissatisified with the quality of corn and soybeans they receive from the U.S. The principal complaint is not that they are unable to buy grain of high quality from us, but that they often do not receive the quality for which they pay. There are solid grounds for this complaint, and our customers are beginning to buy elsewhere.

* Unfortunately, official grain standards and procedures have been (and still are to some extent) worded in a manner to give the seller a marked advantage over the buyer. In the buyers' market for grains which currently exists worldwide, shortchanging the customer is extremely poor national policy. Some progress is being made to correct this situation.

* Subdivision in foreign ports of large export cargoes presents a serious challenge. It is difficult to ensure that each foreign consumer receives grain of the quality and value to which he is legitimately entitled. Segregation that occurs after final U.S. inspection is passed on to the users. Some receive grain of significantly lower quality and some of higher quality than expected. This does not help our efforts to retain or increase markets for U.S. grain.

* Other problems contributing to foreign dissatisfaction with our grains include:

  - Standards differ among countries. This leads to misunderstandings.

  - Countries differ in how they define such things as what constitutes a damaged kernel and how to define the moisture content of grain. This too leads to misunderstandings.

- Grain, particularly corn, has a tendency to deteriorate in handling, transportation, and storage.

* To assume that all grain quality problems originate and can be corrected at the export terminals would be a serious mistake. A substantial share of the problems can only be corrected by grain producers and local warehousemen.

* U.S. seed producers emphasize yield rather than post-harvest quality, because yield is what producers request.

TECHNICAL FEASIBILITY OF IDENTITY-PRESERVED SHIPMENTS OF HIGH QUALITY GRAIN.

* Foreign consumers of our grain have great interest in buying directly from producers, going around the major grain companies and utilizing identity-preserved shipments to assure the quality received.

* The logistical arrangements for identity-preserved shipments are entirely feasible for both containerized and bulk cargoes. However, the additional cost required to move grain in this manner is relatively high. The price may be prohibitive for routinely utilizing identity-preserved shipments. Preserving quality specifications may be a more efficient means of assuring grain quality. However, the price required for such services is unknown.

DIFFICULTIES WITH IOWA GRAIN EXPORTS.

* Few foreign consumers of our grains are willing to pay a substantial premium for quality. What they want is to actually receive the quality for which they have been paying, or the quality they can obtain from other origins at equal prices. This means that average quality of our grain may have to be raised just to remain competitive.

* There are far more foreign consumers of grains interested in buying directly from U.S. producers and small grain merchants than there are producers and small grain merchants willing and able to sell. Some of the more important reasons for this shortage of sellers include the following:

  - The huge tonnages and large dollar values involved alarm potential sellers;
  - The large risks;
  - The small profits that would be possible;
  - Lack of understanding of the long and complex export process; and
  - Inability of would-be sellers to mobilize sufficient tonnages of grain of the required quality largely because:
    -- Producers and small warehousemen now do little to segregate their grains by quality characteristics and many have too few bins to do so.
    -- Many would-be sellers do not have access to a large grain collection network such as those developed over many years by the major grain companies.

-- Local warehousemen holding grain of good quality know they can make more money under current standards by blending their good quality grain with grain of lower quality.

-- There is not now any organized national market for grains of high quality or special characteristics.

-- The Commodity Credit Corporation is holding huge tonnages which will gradually be marketed in a much deteriorated condition by warehousemen responsible for maintaining quality of the corporation's stocks.

* Probably the most complex and difficult subject an exporter of grain must master is that of export contracts.

* The state of Iowa is not a very logical geographic unit upon which to build a quality grain program. The Mississippi and Missouri Rivers are better viewed as arteries of grain transportation than as boundaries for a special production area.

MOVING TOWARD SOLUTIONS OF GRAIN QUALITY AND EXPORT PROBLEMS.

* Technology is rapidly evolving to permit quick measurement of many quality characteristics of grains, characteristics that could not be readily measured in the past. Examples include:
  - Protein content.
  - Oil content.
  - Starch content.
  - Hardness of kernels.
  - Stress cracks.
  - Maximum variation of moisture in kernels constituting one lot or cargo of grain.
  - Presence of toxins and residues.

* The sophistication of grain users is increasing rapidly in terms of understanding the profit implications of small differences in such things as protein, oil, and starch content.

* Users of grains will demand more special characteristics in the grains they purchase. Given current market conditions, large premiums in

exchange for guarantees on these characteristics cannot be expected. However, substantial premiums can be expected for varieties of corn and soybeans that contain above average amounts of oil, protein, starch, etc.

* If we are to upgrade the quality of grains moving in commercial channels, we must change the existing marketing system to provide producers and small warehousemen with economic incentives for segregating good grain and preserving quality.

* At present there is no efficient means of communication between potential sellers (producers and small merchants) of quality grain and buyers (including exporters) wanting to acquire such grains. Exports of Iowa quality grains and profits of producers and small merchants would be enhanced by development of a new marketing mechanism specifically designed to bring together these potential buyers and sellers.

EVALUATING AND CHANGING FEDERAL GRAIN STANDARDS.

* A high priority should be given to bringing about change in the official U.S. grain standards and procedures for corn and soybeans. Change should be in a direction to:

  - ensure that foreign buyers receive the full value for which they pay, and

  - provide more information on intrinsic factors needed by end users to determine the economic value of grain (oil, protein and starch content). This will encourage the production and sale of high quality grains. There are a number of methods for achieving this goal.

RECOMMENDED POLICY FOR THE STATE OF IOWA.

* The strategic goal of state policy should be to increase demand for Iowa corn and soybeans in all markets both domestic and foreign, and to ensure that commercial markets can fairly compensate producers and small grain merchants for grain quality.

* The short-term promotional and marketing efforts of Iowa and its producers should focus on the outstanding ability of the state to consistently produce corn and soybeans not only of good quality but also, and more important, of high inherent value to users of raw grains. Iowa should capitalize and build on this ability to produce grains with superior oil, protein, and starch content, etc. This effort should also focus on the ability of Iowa producers to tailor their products to meet specific needs. The time is right for this strategy, technically and from the point of view of both end users and Iowa producers.

RECOMMENDED OPTIONS FOR THE STATE OF IOWA.

* Iowa should develop a computerized quality grain marketing system. The goal should be to facilitate the marketing of grain with specific quality characteristics (oil, protein, and starch content, etc.) desired by domestic and foreign users of raw grains. The system should provide a means of disseminating information on the location, quantity, and selected characteristics of grain offered by potential sellers of such grains. Also, similar information on the specific needs of potential buyers should be dispensed. A pricing mechanism utilizing bids and offers should be included. The system should generally be accessible to all parties from the smallest producer to the largest grain merchant.

* The State of Iowa should initiate an export and marketing support program. The purpose of the program is to encourage the development of grain merchants, large and small, who desire to sell Iowa grain in international markets. The key to success

of such a support program will be a clearinghouse for information. The clearinghouse should provide detailed information on how the grain marketing and export system functions.

Specifically, the informational needs of those who would export quality grain include, but certainly are not limited to:

- Assistance on using the Iowa computerized quality grain marketing system;
- Domestic and foreign marketing opportunities;
- Assistance on export contract terms;
- Guidance on export financing;
- Assistance with relevant federal programs such as PL 480, GSM 102, GSM 103, and export enhancement;
- Assistance with transportation and freight rates;
- Data on approximate prices for grains at important U.S. and foreign points;
- Information on elevation and inspection services at inland and coastal terminals;
- Assistance on ocean shipping brokers;

- Sources and approximate costs of other services such as stevedoring, stowing and trimming, insurance, demurrage, barge fleeting facilities, freight forwarding, bagging of grains, etc.; and
- Data on the grain quality characteristics of corn and soybean varieties.

* Support should be given to an Iowa certificate program that would confirm measurements of the economic value characteristics of grain.

* Serious consideration should be given to a program to distribute samples of Iowa grains to prospective customers so that they can examine the grains and perform tests of economic value characteristics.

* Increased support for research, development, and testing is required if Iowa is to be a leader in marketing quality grain. The most important goals of this work are:
  - Increased testing of corn and soybean varieties to determine their ability to produce grain with the quality characteristics preferred by our customers.

- A strengthened program to develop new varieties and lines in soybeans and corn with improved grain quality characteristics.
- Equipment to quickly measure grain quality characteristics such as oil, protein, and starch content. This is needed in the field at the earliest practicable date.
- Fielding equipment as soon as practicable to measure the moisture content of individual kernels of corn and soybeans.
- Determining new uses and markets for low quality grain, broken grain, foreign material and grain dust.

Section II. BACKGROUND OF STUDY

Agriculture is encircled by significant change. There is no consensus among producers or policymakers as to the overall solution to agriculture's problems. However, in a world awash with grain, grain quality is fundamentally more important than it was in the 1970's. The world is changing -- rapidly becoming a society that expects and demands "quality" in products and services. Thus, even when the grain surpluses diminish there can be no reversion to a cavalier approach to the quality concerns of consumers of U.S. grains. The increased recognition of the importance of quality provides innovative leaders an opportunity to build on the inherent strengths of corn and soybean production in the Midwest.

Iowa producers are concerned with the growing dissatisfaction of their customers, both foreign and domestic. The declining U.S. share of the world market is especially troubling. Declining export markets are not caused by poor grain quality; however, emphasis on quality is a key to retaining market share. The reluctance of major grain companies to adapt their practices and attitute toward end users' needs is simply no longer acceptable to producers. Even with encouraging signs of change at many levels, continued pressure from producers and end users is needed to speed the process.

A review of U.S. official standards and procedures substantiates the reason for concern. These standards and procedures have for many years favored the exporter over the end user.

The Governor, the Iowa Secretary of Agriculture, and the Iowa Legislature share producers' concern. An increase in volume of Iowa grain sales would benefit many -- local grain merchants and the transportation industry, as well as producers. The primary goal in seeking an appropriate state role is to provide a strong advocacy for producers.

It is essential to develop a greater understanding of the problem. Grain quality is not an issue well suited to quick legislative or executive solutions. Influencing product quality is a more efficient means of solving the problem than attempting to control the export process. There is great risk in any hastily defined program. The State's response must serve the needs of users of raw grains. End users agree that they want something different in terms of quality, but many are not yet certain what specifications they want or need. Marketing opportunities exist if more information about end-use value is provided. However, change in any segment of the grain industry will have an echo effect on other segments, with the greatest impact on producers. Therefore, careful consideration must be given to their interests.

As a result of the State commitment, an indepth study of grain quality was conducted under the contract that has produced this report. The Iowa Department of Economic Development in partnership with the Iowa Corn Promotion Board and the Iowa Soybean Promotion Board approved funding for a study to determine what roles are appropriate for the State, and to evaluate the merits of each option.

A task force was established to assist the study contractor. It consisted of representatives of the Iowa Corn Growers, Iowa Corn Promotion Board, Iowa Soybean Association, Iowa Soybean Promotion Board, exporters, grain merchants, transportation industry, Iowa State University, international finance, Department of Economic Development and the Department of Agriculture and Land Stewardship. The task force served as an advisory committee to its chairman, Cooper Evans. Public participation in the study was enhanced through four subcommittees: finance, marketing, standards, and transportation. Membership lists of the task force and subcommittees are attached in Section X.

The task force met frequently, often twice monthly. An interim report was issued in August, 1987. The final report was released in early November, 1987.

The reports, written by Evans and Associates, are not intended to be consensus documents. The task force's discussions have significantly influenced the views set forth in the reports. However, individual members may not hold the perspective expressed by the authors.

Section III. TECHNICAL ASPECTS OF THE GRAIN QUALITY PROBLEM.

* CUSTOMER DISSATISFACTION.

Many foreign buyers are dissatisfied with the quality of corn and soybeans they purchase in the United States. As a result, these overseas customers tend to shop elsewhere in times like these when there is a surplus of grain in the world and there are many other sources of supply.

Unfortunately, this surplus is likely to persist for at least several years. If we in the United States are to maintain our share of world grain markets under these conditions, we must understand the dissatisfaction of our customers and what must be done to regain their confidence.

A point of great importance is that the principal complaint of foreign customers is not that they are unable to buy grain of high quality from the United States, as many people seem to believe. The real complaint is that regardless of whether they order grain of high or low quality they often do not receive the quality for which they have paid. There are solid grounds for this complaint.

* PROBLEMS INHERENT IN THE UNITED STATES STANDARDS AND PROCEDURES.

Another misconception is that the blame rests largely with the export elevators. Actually there is overwhelming evidence that virtually all grain leaving the United States technically meets our national standards and the terms of the export contracts under which it is sold. But great emphasis must be placed on the words "technically meets" the standards and terms.

This gets at the heart of the matter. The truth is that the official United States grain standards and procedures for determining grain quality have been flawed for many years. They were written in a manner which virtually guarantees that a buyer can be deceived if a sophisticated grain exporter chooses to do so. U.S. exporters are certainly sophisticated and sometimes have chosen to do precisely that. The temptation is great to legally ship grain of a quality lower than called for by an export contract, for the profits can be large.

* PROCEDURES FAVOR UNITED STATES SELLERS.

To illustrate how substandard grain can be legally exported, consider the official procedures for determining whether a sublot of grain scheduled to go aboard a vessel at a terminal

equipped with loading bins meets the required specifications. This determination is made by carefully examining and testing a small sample, one of two taken from the grain. The sublot usually contains several million pounds of grain. The sample weighs a bit over two pounds -- far too little for a high probability that the sample is truly representative of the sublot. If the sample passes all of the tests, as determined by the Federal Grain Inspection Service, the grain is approved and loaded aboard the vessel. If the sample fails the tests the sublot is not rejected, as one might expect. Instead, the second sample is tested to determine if this sample meets the specifications. If it does, the grain is loaded. Should the second sample also fail the tests, and the elevator is equipped with loading bins, the sublot can merely be moved to an adjacent loading bin and new samples taken during the process of moving. Then these new samples can be tested in a continuing search for one which will pass and allow the grain to be legally put on board the ship. Permitting such a search for an acceptable test is a statistical travesty. The procedure allows a high probability that the quality of a cargo of grain, even though officially certified by the government of the United States, will not actually meet requirements of the export contract.

To make matters worse, the official testing procedures contain other loopholes. To illustrate, a contract may call for grain with a maximum permissible moisture content of 14 percent. If so, some sublots graded as containing as much as 14.5 percent may be deliberately and legally loaded. Similarly, if specifications require not more than 4 percent broken corn and foreign material, the official procedures permit some sublots graded as containing 4.6 percent to be included in the cargo. Small wonder our customers are dissatisfied and now come to the United States for grain only reluctantly. Clearly the statistical soundness of our official loading procedures must be improved.

* STANDARDS MISLEAD FOREIGN END USERS.

Unfortunately, problems are not limited just to loading procedures but extend to official grain standards as well. Rounding of numbers provides a good example. Until very recently the standards stated that the amount of dockage present in wheat would be rounded downward to the nearest full percent or half percent. Thus, 1.49 was rounded to 1 percent and 1.99 to 1.5 percent. Similarly, the amount of foreign material in barley, rye, and sorghum was rounded downward to the nearest full percent, as was the percentage of split soybeans. All of these roundings overstate quality.

Determination of the extent of insect infestation in grain is also biased against the purchaser. Under United States standards only live insects are counted. Dead insects are disregarded, in spite of the fact that flour millers complain that dead insects make dark spots in flour just as live insects do.

In determining the amount of stinkbug damage to soybeans the first step is to count the number of beans stung by stinkbugs. That number is then divided by four.

Even the way grains are defined can lead to trouble. As an example, the official definition of soybeans states that soybeans are a grain which contains "not more than 10 percent of other grains...". This means that if soybeans are worth $5 a bushel and oats are worth $1 a bushel, it will be possible under some circumstances to increase profits by adding oats to the beans as an officially acceptable foreign material.

The official U.S. standards for corn state that Nr. 1 corn shall not contain more than 2 percent broken corn and foreign material. So a buyer can expect Nr. 1 corn to contain 98 percent whole kernels, right? Not so. Nr. 1 corn can include up to 48 percent broken kernels in addition to the 2 percent broken corn allowed by the standards. Why? Because the official definition of corn states that corn must contain only

50 percent whole kernels, and the standards define broken corn as material passing through a 12/64 inch sieve. Many broken kernels are larger than 12/64th of an inch.

To make matters worse, a whole kernel is defined as one from which not more than 25 percent is missing.

Obviously some elements of approved procedures and official standards are better suited to shortchanging customers than to pleasing them.

Even the U.S. official appeal procedure offers little opportunity to the buyer for a fair hearing. The procedure consists only of grading a duplicate sample taken at the time of loading and does not address the real issue -- the potential for a significant deterioration in quality after the point of final elevation and during shipment. The review process is so meaningless that dissatisfied customers often do not file a formal complaint. Therefore, FGIS reports stressing the high quality of grain exported from the U.S. are of doubtful validity. They are based only on the small number of formal complaints received. This is not an adequate measure. Informal complaints are also an important reflection of customer satisfaction and must be included in any meaningful analysis.

* GRAIN STANDARDS AMENDMENT OF 1986 -- ENCOURAGING SIGNS OF CHANGE.

There are, however, encouraging signs of change. The Grain Standards Act was amended by Congress in 1986. The amendment includes a new statement of principle which is of great significance. The Act now says that the principal purpose of grain standards shall be to "describe the true condition of grain as accurately as practicable". Clearly, present standards and procedures do not comply with this statement of purpose.

This has led to a great flurry of activity in the Federal Grain Inspection Service. A number of proposed changes in official standards and procedures have been drafted and published in the Federal Register for public comment prior to final adoption. These changes would go a long way toward correcting the deficiencies noted in this report. Unfortunately, few concerned citizens see the Federal Register, let alone comment on proposed changes. However, the major grain exporters read the Register carefully and comment in great detail. Predictably, these special interests often resist changes. Those who favor the status quo are vocal and have powerful influence in Congress and the Department of Agriculture. It remains to be seen how rapidly the Federal Grain Inspection Service can bring about needed change. However, up to this

point the Inspection Service seems determined to implement the 1986 Act.

* GRAIN STANDARDS AND PROCEDURES DIFFER AMONG COUNTRIES.

Another difficulty with grain standards is that they vary in detail from country to country around the world. This can lead to serious misunderstandings between sellers and customers.

The calibration of meters to measure the moisture content of grain is a good example. In the United States such meters are calibrated differently than meters in many countries which buy from us. Corn exported from the United States testing 14 percent moisture on our meters will test about 14.7 percent moisture on the meters of purchasers in many countries of the world.

Another difference is the way damaged kernels are defined. In the Far East a discolored soybean is generally considered a damaged bean. In the United States a discolored bean is classed as damaged only if the interior of the bean as well as the hull is discolored. It should be noted that here again the sophisticated exporter in the United States has an opportunity to take advantage of an unsophisticated overseas buyer. Frequently the net effect of these country-to-country

variations is to leave our customers with the feeling they have been shortchanged.

* IMPACT OF GRAIN SURPLUS ON QUALITY.

In addition, there is another whole class of problems which have less to do with grain standards per se, but are serious nonetheless.

The very existence of our huge surplus of grain in the United States illustrates the point. Surplus grain must be stored for extended periods of time. Grain in storage deteriorates in quality. Sound grain is often stored until it begins to spoil. Then the spoiling grain is moved into marketing channels and replaced by grain that is still sound. To put it differently, our massive grain storage program can be viewed as a system for converting good grain into bad on a continuing basis.

* TENDENCY OF CORN TO BREAK IN HANDLING.

There is a tendency for grain, particularly corn, to break and pulverize as it is handled and moved through export channels. Numerous studies have demonstrated a truly dramatic increase in broken and pulverized kernels as corn is moved from the

Iowa-Illinois area down the Mississippi River and overseas to our customers around the world. This is true even of identity-preserved shipments of corn that are not blended with other grain at the export elevator. It is not unusual for a shipment which leaves a farm in the Midwest containing two percent broken kernels and is loaded at the export elevator containing three or four percent BCFM to contain 10 percent of such material when it reaches the retail customer in Europe or the Far East -- the increase caused solely by breakage in handling. The customer is always displeased to receive such grain because its storage life is short, and it is very likely to heat and mold. Unfortunately, in the United States little emphasis has been placed on developing corn varieties and handling procedures to minimize kernel breakage.

* PRODUCERS HAVE AN IMPORTANT ROLE IN IMPROVING GRAIN QUALITY.

Finally, it would be a mistake to ignore the fact that those who grow the grain are responsible for some of the problems. Producers base their choice of seed almost entirely on the amount of grain the seed should produce, not on the quality of grain which will be harvested. They often yield to the temptation to begin combining corn at the earliest possible date when the corn kernels are relatively soft and susceptible

to damage. They are not always careful about precisely adjusting the combine. In the rush of harvest, producers run the combine too fast in the field, thus reducing grain quality. They often dry corn at temperatures so high that corn kernels develop stress cracks that make those kernels less resistant to breakage. They run augers faster than necessary and thereby increase breakage. And finally, producers are not always as careful as they might be in monitoring the condition of grain stored on the farm. Farmers, too must clean up their act. This is discussed in more detail in the Grain Standards Subcommittee's Report attached in Section X.

* GRAIN QUALITY, A KEY TO RETAINING MARKET SHARE.

Correcting all of these deficiencies and restoring confidence among our overseas customers will take time. Necessary changes in this country will include altering attitudes and practices of long standing as well as improving our official grain standards. Substantial capital investments will be required. And we cannot assume that when these things have been accomplished our export market will dramatically improve. But one thing is certain, we cannot effectively compete in today's world grain markets unless our customers feel assured of fair treatment when they buy grain in the United States.

Section IV. TECHNICAL FEASIBILITY OF IDENTITY-PRESERVED SHIPMENTS OF QUALITY GRAIN.

The popular perception of the nature of the grain quality problem leads to great interest in identity-preserved grain shipments. The problem is perceived to result from the grain industry's reluctance to deliver high quality grain to foreign customers. As a result there is a natural interest in maintaining quality by going around the major grain companies and preserving the identity of grain.

An initial assumption was that the challenges of creating a logistical organization for identity-preserved grain shipments without using the facilities of major grain companies might prove insurmountable. Despite the complexity of the problem it was quickly determined that in fact the elements for such a logistical organization already exist -- even for bulk grain shipments.

Much of the appeal of identity-preserved shipments is a result of the rapid growth of the container shipment industry. There was never any real question that identity-preserved grain shipments by container are technically feasible and well suited to specialty grain markets. However, achieving the desired impact on Iowa's economy is another issue. To

significantly increase the volume of Iowa grain that is marketed, the focus simply must go beyond developing specialty markets. Then the real question about container shipping is whether large tonnages can be moved at an acceptable cost rather than whether the identity of grain can be preserved. Here the answer is that probably costs will be excessive except perhaps under very unusual circumstances.

Relative to exports in bulk, Iowa is well served by an independent network capable of collecting and transporting identity-preserved bulk grain. The grain may be originated from producers, cooperatives, or farm management firms. Independent elevators and loading facilities exist along the Mississippi and Missouri Rivers. Independent barge lines and railroads can preserve identity as they transport the grain to export points. There, publicly owned elevators, mid-stream elevators or export terminals not owned by the major grain companies can be used to transfer the grain to vessels. In short, it is entirely feasible to preserve identity and to ship bulk grain from Iowa to foreign destinations without an exorbitant increase in costs.

However, as is noted elsewhere in this report, there is some question as to the maximum tonnage of quality grain that can be collected within the state in a short time.

Skepticism exists in the industry regarding identity-preserved shipments. Another term, "specification preserved", is evolving in the industry, to describe the way they would prefer to assure that the grain meets contract specifications. The problem with substituting the specification-preserved concept for the identity-preserved approach is that the former allows the grain companies to blend to the maximum limits on all factors specified in a contract while the latter does not. There is merit in the specification-preserved approach, but the term certainly is not synonymous with the identity-preserved concept.

Despite the lack of enthusiasm within the industry, identity-preserved grain shipments, and to a large extent specification-preserved shipments, offer attractive marketing tools for Iowa.

There are several possible markets for identity-preserved shipments of grain. The following paragraphs describe in more specific terms the logistical chain involved and how grain identity can be preserved as it moves to these markets.

As noted previously, one of the simplest approaches for moving identity-preserved grain into a variety of world markets is to utilize the standard 8 foot by 8 foot by 20 or 40 foot shipping containers. These containers have to a great extent replaced general cargo in recent years. Once grain, either bagged or in

bulk, is sealed in such containers the problem of preserving identity is essentially solved. There are two serious problems with such shipments however. The first is cost. Even under very favorable conditions freight rates for containerized grain are far higher than for grain moved in bulk. The second is the practical limit on tonnages that can be moved. Shipping enough grain in containers to have a significant impact on midwest markets is unlikely.

Therefore containerized movement of grain seems best suited to relatively small quantities of high value grain which would be seriously degraded by multiple handlings.

A second market presenting few problems for identity preservation is the rail market to Mexico. There is a thriving market for corn to feed Mexico's poultry and hogs and for beans as raw materials for her crushing plants. Much of this grain moves from the Midwest through Laredo, Texas. Once grain is sealed in hopper cars at the local elevator it is protected and undisturbed until delivery to its final destination.

Another relatively simple logistical chain exists for moving Iowa grain through the ports on the western shores of Lake Michigan. These ports are marginally within trucking range of eastern Iowa and are served by railroads operating in Iowa. However, a problem is the absence of independently operated

grain terminals at nearby ports of Milwaukee, Kenosha, and Chicago. Existing facilities at each port are owned by major grain companies. Indiana's port at Benton Harbor is also of some interest, but this also lacks an independent loading terminal.

For moving very large tonnages of Iowa grain to most overseas buyers, export through the Gulf ports is clearly of greatest interest. Here the logistical chain can be long and complex, but identity preservation is entirely feasible.

One of the simplest examples is by hopper rail car shipment from interior Iowa points to the public elevator at Corpus Christi. This terminal elevator is modern, well managed, interested and experienced in handling identity-preserved shipments. The harbor is excellent and of deep draft. Stevedoring problems are rare. Charges are reasonable. Houston-Galveston is also a possibility. The public elevator there can also function as an export terminal. However, at present it is full of stored grain, mostly Commodity Credit Corporation (CCC) stocks. Being filled to capacity of course limits usefulness as an export terminal.

Often the lowest cost route for exporting grain from the Midwest is through terminals in the Baton Rouge to New Orleans area of Louisiana. Generally, the cheapest way to move grain

to these terminals is by barge down the Ohio-Illinois-Missouri-Mississippi River System. Of course, the northern reaches of this system are closed during the winter months. In the winter, and occasionally at other times, rail shipments are most practicable. From the standpoint of preserving the identity of grain either form of shipment is workable.

For grain moving by barge the logistical chain is long. On the northern end of the chain the key to identity preservation is finding facilities to load barges -- facilities not associated with the major grain companies. In Iowa examples of such independent firms on the Mississippi include Pattison Grain of Clayton, River Gulf Grain in Davenport, and the Italgrani elevator near Wever. On the Missouri there is Terminal Grain Corporation near Sioux City and a small operation having no storage capacity located just north of Council Bluffs. Generally speaking, movement of grain to these facilities is more practicable by truck than by rail. Most of the elevators are small so that identity preservation is simplified. The negative characteristic of such small facilities is that they have only a limited capability to act as "surge tanks" to accumulate grain and smooth the flow.

There are a number of relatively large and reliable independently owned barge lines very willing to move and coordinate identity-preserved shipments. An example is

Alter Barge Lines of Davenport, Iowa. These facilities and barge lines permit representatives of buyers and sellers to be present during loading. Alter Barge is also willing to allow a representative to accompany tows down the river to assure identity preservation. In the New Orleans area an example of a loading facility ideally suited to preserving grain identity is the floating elevator operated by Delta Bulk Terminals. Here the grain does not disappear into a labyrinth of concrete silos. Barges are brought to one side of the floating terminal. The grain is unloaded, weighed, graded by federal or private inspectors and moved directly aboard the cargo vessel moored on the other side of the floating terminal.

An example of a very different approach would be to utilize the capacious and technically complex terminal at New Orleans owned by ZEN-NOH, a Japanese grain cooperative. It is capable of handling identity-preserved shipments of high quality grain if that is the desire of the seller and buyer. The management of ZEN-NOH will perform these services for a fee. Advantages of facilities such as ZEN-NOH are that they can receive grain by both barge and rail, and can temporarily store large quantities of corn and soybeans in anticipation of the arrival of a vessel, and can clean grain at time of loading. It is important to note that most of the major grain companies will be pleased to handle virtually all aspects of identity-

preserved grain shipments for a fee. The question is whether the fee will be reasonable. (See Transportation Subcommittee Report, Section X.)

Section V. DIFFICULTIES WITH EXPORTING IOWA GRAIN.

* GENERAL.

Predictably, the study has identified many problems associated with exporting U.S. grain during this period of world surpluses. This section is not intended as an analysis of the overall grain export problem. The purpose is to note some of the difficulties, frequently unforeseen, that complicate the task of exporting quality grain from Iowa. The focus is on factors that could influence possible roles of the State of Iowa in increasing such exports, particularly large bulk exports.

* SHORTAGE OF SELLERS.

One of the unforeseen difficulties is that contrary to popular perception there seem to be far more foreign consumers of grain interested in buying directly from Iowa than there are Iowans prepared and willing to sell. Those who wish to buy make it very clear that they do not want to purchase through any of the major grain companies. At present few Iowa companies are willing to assume the very considerable risks involved, particularly for substantial shipments of bulk commodities.

Several of the major reasons for this reluctance are outlined in the following subsections. But it is important to note here that during the course of this study a number of serious requests for bids were received to which Iowa companies were unable to respond. Admittedly it is possible that a wider dissemination of the requests might have resulted in bids if a mechanism for such dissemination had been available.

However, a good example of the nature of the problem grew out of the visit to Iowa by two senior representatives of the Mexican oilseed processing industry. They were interested in direct shipments of Iowa soybeans. They visited an Iowa country warehouse facility and talked with the elevator managers in detail about how such transactions could best be handled. Then they returned to Mexico where they structured two requests for bids specifically to match the requirements of the Iowans as the Mexican representatives understood them. One request was for 6,000 metric tons. The other was for 6,500 metric tons. Both were to be shipped by rail. Iowa firms were unwilling to submit bids in a timely manner. A copy of the telex requesting these bids is attached as Annex B.

* COMPLEXITY OF EXPORT PROCESS AND LACK OF EXPERIENCE AND KNOWLEDGE IN IOWA COMPANIES.

The logistical and business sequence involved in transferring grain from Iowa producers to foreign users is long and complicated. Only a handful of Iowans have some understanding of the total sequence. In general, Iowa producers and warehousemen have focused their attention only on the small segments of the sequence affecting them personally.

* COMPLEXITY OF EXPORT CONTRACTS.

Probably the most complex and difficult subject an exporter of grains must master is that of export contracts. Here a great deal of assistance will certainly be required by any novice. In many instances mastery will probably prove to be impractical for a would-be exporter of bulk cargo.

Included as an annex to this report is a summary document on this subject prepared by C.J. Huffman. To quote from that summary:

"The complexity of grain contracts, diminished when presented in this format, should not be overlooked

or dismissed. The most skilled domestic grain trader would be cast adrift when trying to arrange shipment and/or financing of export sales. The logistics, domestic politics, international politics, and financial arrangements demand a wealth of knowledge, personnel, staff time, legal experts, and resources. [One must] Add to these demands the everchanging dynamics of a biological product."

Anyone interested in understanding further the complexity of the grain trade should certainly take the time to read Huffman's summary of grain contracts included as Annex A.

* SIZE OF TRANSACTIONS.

Most Iowans interested in exporting grain are discouraged by the size of typical transactions. The USSR has little interest in individual purchases of less than 250,000 metric tons of corn -- such a contract would require a commitment of roughly $20 million. Many soybean processors like to buy 250,000 tons of beans for delivery over a period of several months -- that quantity of beans is worth about $60 million. One average-sized ocean vessel carries about 40,000 metric tons -- so the value of a single cargo of corn is worth roughly $3 million and one cargo of beans is valued at about $9 million at

current prices. These are overwhelming numbers to most Iowa producers and warehousemen. Containerized shipments for specialty markets are, of course, typically much smaller and more manageable.

* RESPONSE TIME TO TYPICAL REQUESTS FOR BIDS.

Most tenders for bids announced by overseas buyers allow a very short response time. Typically the specified time ranges from a few hours to at most several days. Often the bids submitted leave some details open for further negotiation, but the first round bids generally determine who will get the contract. Such short response times have generally been incompatible with the decision making process existing in the Iowa grain merchandising community.

* IOWA BANKS AND THE FINANCING OF GRAIN EXPORTS.

For the most part, Iowa banks seem to have little interest in financing the export of agricultural commodities on the scale necessary to have any significant impact on the economy of the state.

With very few exceptions, they have little or no experience with such transactions or with foreign letters of credit, government credit guarantee programs, fluctuations in international currency values, export enhancement programs, etc. There is, however, serious interest in providing such financing by some regional banks and by some multinational banks such as Norwest Bank, First Interstate Bank, and Rabobank of The Netherlands. For cooperatives, financing could be made available by the Farm Credit System's Bank for Cooperatives if they wished to do so.

* HOW TYPICAL IOWA GRAIN ELEVATORS AND WAREHOUSEMEN EARN PROFITS.

To understand the reluctance of typical elevators and warehousemen to bid on export tenders, it helps to understand how an Iowa grain merchant makes money in today's business climate. At the risk of oversimplification, profits are earned by:

- Storing corn for farmers or the CCC -- keeping all bins full and earning storage is crucial to profits;
- Blending low quality grain acquired at a discount with high quality grain purchased without paying any premium; and

- Elevation charges (and sometimes transportation) on grain moving into and out of the facility.

To say it another way, typical Iowa merchants do not like to own grain, except for very short periods as it passes through their hands. They much prefer that farmers and the USDA own the grain and pay the warehousemen to store it. Therefore, they seldom hold title to enough grain to respond quickly to a large export inquiry. In addition, they are usually reluctant to sell at market prices any high quality grain they may own (for which they probably paid the producer no premium) without blending it with low quality grain.

* INDEPENDENCE IN DECISION MAKING BY TYPICAL IOWA GRAIN ELEVATORS AND WAREHOUSEMEN.

The typical Iowa grain merchant is not large enough to handle a substantial export order for bulk grain. Therefore to respond to a tender a number of grain merchants must join together. In practice, this has proved difficult. It is the opinion of some that it will prove impossible to get most Iowa grain merchants to work together effectively on the scale necessary for export sales (although there are a few encouraging exceptions); and that a better base for such sales may be large farm management organizations and producers.

* IOWA GRAIN PRICES COMPARED TO PRICES AT THE GULF COAST.

Frequently a comparison of Iowa grain prices and prices at Gulf ports will show that the difference between the two is less than the cost of transporting grain from Iowa to the Gulf. This is most discouraging to the Iowa producer or merchant exploring the feasibility of exporting identity-preserved grain. There are several reasons for this. One is that Iowa has very good local markets for grain. Other reasons are noted in following paragraphs.

* NEGOTIATED FREIGHT RATES.

USDA recently stated that as a result of the Staggers Rail Act approximately 60 percent of the grain moving by rail to the ports now moves under negotiated rates. (Agricultural Outlook, June 1987, pp .23) These preferential rates are seldom if ever made public and are agreements between very large shippers and the railroads. The small or "captive" shipper unable to negotiate such rates must move grain at the published tariffs, which are much higher. However, some railroads indicate the size of shipments typically involved (40,000 to 250,000 tons) makes it possible to negotiate competitive contract rates for quality grain shipments. The problem once again is the lack of sellers willing and able to

commit to such large shipments. A contributing factor is the seeming reluctance of anyone in a position of authority from the major rail companies to sit down and seriously discuss negotiated rates with new shippers.

* CONTROL OF STOCKS BY USDA.

Export efforts of the small warehouseman are complicated by the fact that during this period of grain surpluses a major portion of their inventories is owned or controlled by the CCC. However, it is possible through the use of PIK certificates to free grain stocks.

* SHOULD GRAIN BE GRADED AT POINT OF ORIGIN OR AT DESTINATION?

When a farmer sells grain to a local elevator the grain is graded when delivered to that elevator. When a small elevator sells to a major grain company the grain is also graded on delivery. These are called transactions based on "destination grade". When a large U.S. exporter sells grain to a foreign buyer the grain is graded while being loaded aboard ship. This is called an "origin grade" transaction. One should note that, in general, major grain companies much prefer to buy grain from

producers and small elevators on destination grades, but export grain only on origin grades. Foreign buyers are increasingly skeptical about receiving the quality for which they pay under origin grade contracts. As a result, they are becoming more insistent that the condition of grain at destination play a role in determining the purchase price of the grain.

This feeling of mutual mistrust greatly complicates export sales by small U.S. grain merchants. One important distinction, however, is that the seller willing to emphasize grain quality has far less to fear from destination grades than the one bent on providing the absolute minimum quality necessary to legally meet contract terms. Nevertheless, sellers must be extremely cautious about agreeing to terms other than origin grades.

* PROFIT MARGINS ARE SMALL ON GRAIN EXPORTS.

Generally speaking, profits earned on exports of grain are small. One Iowan who has a long association with foreign trade and in the past exported grain, recently stated that he "never could figure out how you make money exporting grain". Another Iowan at one time responsible for extensive foreign sales of grain agreed. He then added, "When I did make money it often was on the storage, transportation, and elevation rather than

on the grain sale itself."

Today average profits on export sales from the U.S. probably are in the range of one to four cents a bushel on corn and somewhat more on beans. This is of course only an estimate, exact profits being closely held secrets in virtually all grain companies. However, the point of importance is that profits per bushel are often less than the typical daily fluctuation in the price of grain on the Chicago Board of Trade. This raises a serious question about whether the State of Iowa should focus entirely on increasing export sales.

* MERITS OF GREATER USE OF CONTRACT SPECIFICATIONS.

U.S. producers and their customers have a mutual interest in correcting the shortcomings of current grain trade practices. Increased use of more specific contract terms to make clear the quality factors desired by the end user is one promising means of achieving this goal.

Major grain companies would prefer that customers not specify more than a simple numerical grade. If they do call for more complex specifications the large exporters will ask substantial premiums. Today these premiums can be justified on the grounds that stocks in storage are not segregated according to these

quality factors. The fewer additional factors specified by contract the better for the major grain companies. Simplicity of specifications facilitates collecting suitable grain, encourages profitable blending, and permits companies to swap and trade grain. However, the industry has adjusted to changes in the grades in the past and can certainly adjust to the use of more complex specifications.

Producers and foreign customers must take the lead in bringing about this change. But we must keep in mind that more time will be required for producers and exporters to make the adjustment than for foreign end users to write the desired new specifications into contracts. The U.S. has a great opportunity to be the first to make this adjustment, ahead of our competitors. The opportunity will not last forever.

* IMPORTANCE OF WELL-ESTABLISHED RELATIONSHIPS WITH OVERSEAS CUSTOMERS.

Selling grain into the regular commercial markets of the U.S. is a very simple process for the producer or small grain dealer. Selling direct to an overseas user of our grain may require a well-established relationship based on trust and mutual understanding that often takes considerable time and money to develop.

* LIMITATIONS OF IOWA AS AN INDEPENDENT ENTITY IN GRAIN EXPORT MARKETS.

As a political entity, the land area known as the State of Iowa is well established, totally accepted and known world wide. The same cannot be said about Iowa as a logical entity upon which to base a grain export program. From the standpoint of ability to raise and ship high quality corn and beans Iowa's boundaries are totally artificial. The Mississippi and Missouri Rivers are much more the natural arteries of commerce than they are logical economic boundaries for commerce in grain. Politicians can perhaps prevail in making Iowa a successful grain exporting entity in spite of this fundamental disadvantage. However, geography and economics suggest that a regional approach in cooperation with one or more neighboring states such as Illinois could be far more successful.

* GOVERNMENT CREDIT GUARANTEES AND EXPORT ENHANCEMENTS.

A major share of U.S. grain exports are now made with federal assistance. Credit guarantees under the USDA's GSM 102 and GSM 103 programs are very common. Use of the Administration's export enhancement programs is expanding rapidly. Other guarantees can be available through the Export-Import Bank. The small firm interested in exporting grain is at some

disadvantage in trying to participate in these programs. However, a thorough understanding of how they function is essential.

* IMPORTANCE OF WAREHOUSE LOCATION.

Grain companies, railroads, and barge lines prefer strategically located grain warehouse facilities that provide a special advantage. Railroads want warehouses located along their own rights-of-way and dislike those located at "gateway" points where two railways intersect, giving a shipper a choice and thereby increasing rate competition. Rails and barge lines have the least enthusiasm for warehouses located where grain can be loaded out to barges or to one or more rail companies. However, such alternatives in shipping provide sellers of grains with major advantages.

* ADVANTAGES HELD BY MAJOR INTERNATIONAL GRAIN COMPANIES.

In spite of their tarnished reputations on grain quality, the major international grain companies remain the source of U.S. grain preferred by most of our foreign customers. Principal reasons include:

- A proven record of being able to marshal and deliver large quantities of grain on schedule, even though there may be serious questions about meeting quality specifications;

- Ability to provide the grain at least cost because of the many economies of scale available to the majors;

- Well-established relationships with their foreign customers;

- A well-established relationship with USDA, CCC and other federal agencies that facilitates access to credit guarantees, export enhancement assistance, and government grain stocks through swaps, etc.

- A vast array of elevators, warehouses and very efficient terminals to facilitate collection of grain to fill large orders.

- Staffs, skilled at all aspects of complex international transactions.

Section VI. MOVING TOWARD SOLUTIONS TO GRAIN QUALITY AND EXPORT PROBLEMS.

* GENERAL.

This section examines steps that would be helpful in improving grain quality and in increasing grain exports. In general the subject is approached without attempting to differentiate between steps that could best be taken by the private sector and those that should be taken by government. Exceptions to this general approach of course exist in areas which are clearly government functions, such as what to do about changing federal grain standards discussed in Section VII.

* HOW CAN THE GROWER OF QUALITY GRAIN OBTAIN A PREMIUM?

Usually the farmer who takes pride in producing grain of high quality is not rewarded for his efforts. The U.S. grain merchandising system fully expects such producers to surrender their superior products to the market at the standard price without premium. This not only makes profitable blending possible for the grain merchant but also enables him to minimize painful discounts charged farmers who sell him grain

of low quality -- discounts which, if too large, could cause these producers to sell elsewhere.

The point of importance is that quality will never receive premiums so long as no premiums are necessary to bring grain of high quality into the local elevator.

The farmer who produces quality grain must play an active role in correcting this situation. Fortunately, there are a number of things he can do to deny blenders free access to above average grain. These include a constant search for markets that <u>will</u> pay a premium for quality, and until such markets are found:

- Consumption of the best grain on the farm as livestock feed;

- Sale of high quality grain without premium, but only to end users who will consume rather than blend and sell the grain; and

- Sale, into the traditional merchandising channels, only of grain of the minimum quality necessary to avoid discounts, even though such practices may be contrary to the natural instincts of the farmer

committed to quality.

In other words, reducing the available supply of quality grain will help build demand and speed the payment of premiums.

* FORGOING PREMIUMS IN ORDER TO DEVELOP MARKETS FOR QUALITY GRAINS.

The major grain companies like to ask, "Why should we give foreign buyers of grain higher quality than they're willing to pay for? If they want premium grain let them pay a premium for it."

From the standpoint of the major grain companies this is a very rational argument. So long as they can profit by blending quality grain they cannot be expected to give away that advantage.

However, this argument is not necessarily sound from the viewpoint of the grain merchant or producer trying to develop a market for such grain. Forgoing a premium to help develop a market can make more sense. From the standpoint of the producer working to change the attitude of the commercial blending markets toward premiums, such sales also tighten

the supply/demand balance for quality grain. This increases the pressure for premiums in this country.

* NEED FOR A QUALITY GRAIN EXCHANGE OR COMPUTERIZED BID AND OFFER DATA NETWORK.

Today, few producers have any way to market corn and soybeans of high quality other than into the regular commercial markets where that high quality is dissipated by blending. Similarly, few grain merchants interested in exporting high quality grains have access to sufficient quantities of such grains to meet their needs. The quality is lost by the U.S. merchandising system before the grain can enter their hands. Clearly, there is a need for a new marketing mechanism that facilitates the preservation of quality and the movement of such grain into the hands of those who will best use it. This can be accomplished most easily by a new system designed to bring together potential buyers and sellers of high quality grain who now have no communication with one another. Two basic approaches to accomplishing this can be envisioned.

- One is a cash grain exchange utilizing the traditional open outcry system. An excellent example of this approach is the St. Louis

Merchants Exchange which brings together buyers and sellers of barge-load lots of standard grain and barge freight.

- The other is a computerized clearinghouse which collects information regarding quantity and location of grain based on quality factors. Such an electronic network could also include a mechanism for bids and offers.

* THE POSSIBLE ROLE OF A PORT AND EXPORT AUTHORITY.

Several years ago the State of Indiana took steps to encourage the formation of a port authority to promote exports, including grains, from that state. The port authority functions on both the Great Lakes and the Ohio River. It has had aggressive and imaginative leadership and has been highly successful in assisting the private sector with moving Indiana products into world markets at competitive costs. Other states on the major rivers have initiated similar efforts. A comparable authority operating in Iowa on the Mississippi and Missouri Rivers could be beneficial and warrants detailed consideration.

* ENSURING MORE COMPETITION IN TRANSPORTATION AND BROADER ACCESS TO THE LOWEST TRANSPORTATION COSTS.

As noted in Section V, the cost of transportation within the United States is a very important factor in determining whether quality grain can be offered at the ports at competitive prices. Generally speaking the lowest transportation costs are available only to the largest grain merchants. At the present time these merchants have not demonstrated any great enthusiasm for changes that would improve the quality of grain delivered to foreign users. It follows then that exports of quality grain would be enhanced by steps to make lower transportation costs available to smaller exporters eager to provide quality. Such steps include:

- Negotiation of lower rail rates for more shippers by organizations with sufficient leverage to do so; such organizations include producer groups, associations of cooperatives, shipper associations, port authorities, and most important in the view of the authors, organized alliances of these groups with foreign users of grains.

- Support and incentives for construction and operation of grain warehouse space that ensures maximum competition in transportation costs; essential characteristics of such warehousing include:
    - -- Capability to load out grain to barges and to rail cars on one or preferably more than one railroad;
    - -- Consistent availability of access to such warehousing by producers and small grain merchants as opposed to tight control of access by narrower interests; and
    - -- Extensive capability of the warehousing to segregate grain according to quality factors.

* <u>WORKING WITH OVERSEAS USERS OF CORN AND SOYBEANS ON CONTRACT TERMS TO ENSURE QUALITY.</u>

Rapid progress in improving the quality of exported grain is possible by educating foreign consumers of our grains on appropriate terms to be included in export contracts. Customer complaints can be quickly reduced if producers in the U.S. inform users of a few small changes in the fine print of many standard contracts which would go a long way toward ensuring

customer satisfaction. Such changes include:

- Specifying that the cumulative sum loading procedure in its present form shall not be used in determining grain grades;
- Specifying not only average moisture content as is now customary, but an acceptable variation of moisture among kernels constituting a cargo; and
- Specifying appropriate discounts for failure of cargo to meet contract specifications at port of destination, as determined by testing by an international inspection company, mutually acceptable to the buyer and seller.

* IMPROVING QUALITY BY AVOIDING SHIPPING BIN TERMINALS.

Export elevators can be divided into two classes -- those with shipping bins and those without. A strong case can be made that grain quality will be better in cargoes shipped from terminals not having shipping bins. In an elevator not equipped with shipping bins the grading of samples is not completed until the grain is in the hold of the vessel. If the grading indicates that corn or soybeans do not meet contract specifications the grain must be removed from the ship. This is a very expensive process. Hence, exporters do not risk

trying to load corn or beans that only marginally meet the specifications when loading at a terminal not having shipping bins. At an elevator equipped with shipping bins, grading of samples is completed before the grain can be put aboard the vessel. Failure of a bin of corn or beans to pass inspection can be corrected at far less cost to the exporter than removal of that grain from the hold of a ship. An exporter can cut margins on quality with far less risk at a loading bin elevator. However, as the use of rigid quality specifications becomes more common, a shipping bin house may be the type best suited to meeting the specifications at a competitive price.

* SUBDIVISION OF GRAIN CARGOES IN IMPORTING COUNTRIES.

Few end users in importing countries consume an entire grain cargo. Shipload lots are typically subdivided for transshipment to several end users. The usual practice is to issue a copy of the original Federal Grain Inspection Service loading certificate on the entire shipload to each end user. Rarely, however, does an individual sublot of grain have the same characteristics as the entire shipment. These inconsistencies are usually caused by disaggregation during the loading process and are due to differences in particle size. Rarely is this disaggregation reversed by reblending

during unloading at importing ports. This results in some end users receiving much lower quality grain than indicated on the copy of the original loading certificate. There is a need to present information to importing end users on the cause of the problem and the alternative solutions including:

- Reblending or cleaning at importing ports;
- Cleaning the grain to a low level of foreign material at shipping elevators; and
- Providing end users a purchase contract specifying quality to be delivered, i.e., destination grades or discounts for receiving lower quality grain than is indicated on the loading certificate.

* PROMOTING DOMESTIC MARKETS AND USES FOR LOW QUALITY AND FRAGMENTED GRAIN.

The best location to consume low quality grain and fragmented grain is as close as possible to the point of its origin. At present the economic incentives are to blend this material into cargoes destined for overseas use. As these export incentives are reduced more must be done to promote domestic utilization of this material for livestock feed, industrial feedstocks, and fuel.

* EDUCATING PRODUCERS, WAREHOUSEMEN, PLANT BREEDERS, POLITICIANS AND THE PUBLIC.

Any program to improve grain quality and exports of Iowa grain must include a strong effort to better inform all parties involved of the true nature of the problems and how they can be solved. To a considerable extent this educational effort must include on-going programs that extend over a considerable period of time. The areas needing attention include the following:

- Dispelling a number of misconceptions that seem to be popular, including:
  - -- Misconception: all foreign customers want high quality grain;
  - -- Misconception: most foreign customers will pay a premium for quality;
  - -- Misconception: most of the problems are concentrated at the export terminals, and if the exporters could only be stopped from adding foreign material to grain that would take care of the matter; and
  - -- Misconception: Iowa grain producers deliver only high quality grain into commercial channels.

- Better informing producers on a variety of subjects including:
  - -- How good grain quality benefits the producer by reducing drying costs, aeration costs, and spoilage;
  - -- The grain quality characteristics of the many seed varieties available;
  - -- How grain quality can be improved on the farm by better harvesting, handling, drying and storage techniques;
  - -- How to market high quality grain to ensure the best possible price and avoid giving to the grain merchants all the economic benefits of blending;
  - -- Keeping producers informed of the rapid changes taking place in the quality characteristics desired by the users of our grains;
  - -- Market price information on high quality and specialty grades of grain and prices of grains at the export terminals; and
  - -- What foreign producers are doing about grain quality.

- Educating Iowa grain dealers and warehousemen and keeping them informed on:
    - -- The rapidly changing requirements of our overseas customers for particular quality characteristics in grain;
    - -- Foreign sales opportunities;
    - -- The grain export process and how it functions;
    - -- The growing importance of more segregation of grains by quality characteristics on the farm and at the point the grain first enters commercial channels; and
    - -- What our competitors are doing to provide quality grain to their customers.

- Seminars for legislators and other state employees on grain quality and grain export problems.

- Seminars for plant breeders and seed dealers on grain quality and exports.

* SUPPORT FOR APPROPRIATE RESEARCH, DEVELOPMENT, TESTING, AND DEMONSTRATION.

Clearly, more financial support is needed for research, development and testing in a number of areas related to grain quality and exports. These include the following:

- New equipment for measuring and testing grain quality characteristics. No longer are the classical measurements of grain quality such as average moisture content, percentage of foreign material and percentage of total damage adequate to describe the quality of grain. Increasingly our foreign customers want to know the range of variation in moisture content among the kernels comprising a cargo, kernel hardness, protein content, oil content, etc. The technology to measure these characteristics is well understood and test equipment should be made available for commercial use as soon as practicable.

- Plant genetics and breeding for the grain quality characteristics our foreign customers desire.

- The economics of growing and exporting grains in a world that is rapidly increasing in sophistication relative to grain quality and the importance of specific characteristics in grains that effect end-use value.

- Grain handling and storage with emphasis on reducing post-harvest damage and identifying cost-effective ways of doing more to segregate grain according to quality characteristics.

- Improved and more cost-effective ways to transport identity-preserved grains and grains shipped to developing countries characterized by lack of adequate infrastructure for receiving and distributing grain.

- New uses for and better utilization of grain that is fragmented or of low quality.

* SUPPORT FOR THE SMALL EXPORTER.

The individual or small firm wanting to export quality grain from this state should be encouraged and will require a great deal of support and guidance. Since there is no substitute for

the enthusiastic and vigorous entrepreneur in promoting progress, provision of such support on a continuing basis must receive high priority in an Iowa quality grain program. Often it may be necessary for a number of firms to respond collectively in order to acquire the quantity necessary to fill the contract. Providing a means for such consolidation should be an important goal of the State. This will include state efforts to encourage entities capable of fulfilling the "seller" function.

* PROVIDING INCENTIVES FOR GRAIN QUALITY.

Generally speaking, few if any economic incentives to produce quality grain are now included in the U.S. grain production and merchandising system. Many authorities believe that incentives for maintaining quality offer the simplest and most effective means of overcoming many of the difficulties noted in this report. Some viable approaches to providing such incentives include:

- Changing Commodity Credit Corporation policy to include payment of premiums on forfeited grain that exceeds quality standards in addition to the current practice of charging discounts on grain which does not

meet those standards;

- Changing the U.S. grain standards to measure grain weight (tonnage) on a dry matter basis; and

- Changing the U.S. grain standards to measure grain weight (tonnage) on a basis that does not include the weight of any foreign material in the grain.

* IMPORTANCE OF QUALITY GRAIN PROGRAMS WITHIN THE COMMODITY ORGANIZATIONS.

To be successful, any program to expand markets for quality grain must have the continuing support of the state's corn and soybean associations and promotion boards. Certainly such support exists today. There is no reason to suggest that this support will not continue in the future. The point of importance is that, as an Iowa quality grain program evolves, the state's commodity groups must be involved intimately in both the planning and implementation of such a program.

* NEED FOR PRESSURE ON THE MAJOR GRAIN COMPANIES TO CHANGE.

The major grain companies favor the existing U.S. system for merchandising grain. In the past this system has served them and this country well. But the world grain trade is changing, and the major grain companies feel compelled to resist such change. It should be noted, however, that the major grain companies can and will change when it becomes imperative to do so. They will not be displaced. The point of importance is that realistically the principal goal should be to maintain pressure on the major grain companies to change as opposed to being determined to replace them. However, the principal means of maintaining such pressure is to demonstrate that there is a substantial world market for quality grain and that they could eventually lose market share if they persist too long in resisting change.

SECTION VII. EVALUATING AND CHANGING FEDERAL GRAIN STANDARDS AND PROCEDURES.

* DEFINING QUALITY.

Discussions of grain quality tend to imply that the quality of grain is always good or bad. In fact, quality can be measured in terms of the extent to which the grain is:

- free from defects.
- shippable and storable.
- tailored to its intended end use.

On the basis of the first two criteria grain can be judged good or bad. However, in terms of end use quality represents something different for each industry. Extra or better quality is not the issue. Markets exist for all qualities of grain. (See Grain Standards Subcommittee Report, Section X.)

* END USERS ARE SEARCHING FOR A WAY TO FIND QUALITY INFORMATION IN THE MARKET PLACE.

Our customers know that American farmers produce good grain, but what is missing is a way to identify and deliver the kind

of grain needed for their end use.

A tremendous marketing tool will exist for those who first make this information readily available and solve delivery problems.

* PRINCIPLES FOR EVALUATING GRAIN GRADES.

"Grades do not determine quality, neither do they determine the distribution of profits between the buyer and the seller. What they do provide is a means of communication about value in the marketplace . . . that enables buyers and sellers to arrive at a market value as quickly, simply and reliably as possible." (Hill, Principles For Use In Evaluating Present And Future Grain Grades, September 1985.)

As set forth in a statement of principle included in the Grain Quality Improvement Act of 1986 the primary purpose of the grain standards is:

> "To describe and certify the quality of grain as accurately as practicable";

More specifically the purposes are:

"(a) to define uniform and accepted descriptive terms to facilitate trade in grain;

(b) to provide information on storability;

(c) to offer users information on end-product yield; and

(d) to provide the framework necessary for markets to establish grain quality improvement incentives."

Clearly, present standards and procedures have not yet been brought fully into compliance with the 1986 Act in spite of the efforts of the Federal Grain Inspection Service to do so.

* INADEQUACY OF CURRENT GRAIN STANDARDS.

The factors used to determine the official grades of grains and oilseeds are largely inadequate today and will be even more so tomorrow. The standards do not completely meet any of the purposes, nor do they fully describe any one aspect of quality.

U.S. grades do contain useful information about defects and to some extent storability. However, they simply have little correlation to the intrinsic end-use value of grain. They fail

to measure factors economically important to end users of grain such as starch, protein, and oil content.

To illustrate, the official U.S. grade of a cargo of soybeans is determined by test weight of the beans, percent of split beans, percent of damaged beans, percent of damaged kernels, percent of foreign material, and percent of soybeans which are not "yellow". On the other hand, the profitability of a soybean processing plant is determined largely by the protein content, the oil content and the quality of the meal and oil that can be obtained from the beans entering that plant. Today the official grade yields only a limited amount of information useful in assessing the profitability of processing a a cargo of soybeans. The same principle applies to corn and other grains.

Since, numerical grades are accepted and well understood, they should be retained and modified rather than abandoned.

* CHANGES IN FEDERAL GRAIN STANDARDS.

- General.

A high priority should be given to bringing about change in the official U.S. standards for corn and soybeans. Changes should

be in a direction to provide incentives for the production and sale of high quality grains. The objective of these changes will not be to favor Iowa grain per se. However, since higher quality grain will be found most often in the Upper Midwest, Iowa corn and soybeans will begin to increase in value relative to average values as the standards are improved. Such changes may be resisted by states which traditionally have marketed lower quality corn and soybeans by blending with grain originating in the Upper Midwest.

Major responsibilities for maintaining pressure for change should be assumed by the Governor, the Secretary of Agriculture, the Department of Economic Development, both houses of the Iowa General Assembly, Iowa State University, the Iowa Corn Growers Association, and the Iowa Soybean Association. Each should be a vocal advocate of improving the standards.

It should be recognized that this is a time of changing attitudes toward the subject of grain quality and marketing, and that the official U.S. grain standards are steadily being revised. In other words they are a moving target. Therefore, the specific proposals suggested in this section should not be viewed as rigid recommendations, but rather as examples of the directions in which change should progress. There is often more than one way to achieve the desired results.

* CHANGES IN OFFICIAL LOADING PROCEDURES.

The cumulative sum method of grading grain during loading of export cargoes should be altered to make it statistically sound. Presently the procedure is biased to favor the seller. This bias must be removed.

* SPECIFIC CHANGES IN THE STANDARDS FOR CORN.

- Basic changes should be made in the definition of corn:

  -- The requirement that corn consist of at least 50 percent whole kernels should be tightened substantially to require a minimum of 75 percent.

  -- The allowance that permits corn to contain up to "10 percent of other grains for which standards have been established" should be modified to permit not more than 3 (?) percent of other grains. (This may require a change in the definition of mixed grains.)

  -- The section that defines a whole kernel as one from which not more than 25 percent of the kernel is missing should be tightened greatly.

  -- The standards currently contain the statement, "U.S. Sample Grade shall be corn which -- in a

1,000 gram sample (about 2.2 lbs.) contains 8 or more stones which have an aggregate weight in excess of 0.20 percent of the sample weight, 2 or more pieces of glass, 3 or more crotalaria seeds (Crotalaria spp.), 2 or more castor beans (Ricinus communis), 8 or more cockleburs, 4 or more particles of an unknown substance(s) or a commonly recognized harmful or toxic substance(s) or animal filth in excess of 0.2 percent -- ".

This means that a bushel of corn grading U.S. Nr. 1, 2, 3, 4, or 5 could conceivably contain 178 stones, and 25 pieces of glass, and 51 crotalaria seeds, and 25 castor beans, and 178 cockleburs, and 76 particles of an unknown substance(s) or a toxic substance(s), or animal filth.

This is, of course, a ridiculous example that would never actually occur. However, the point is that the official U.S. standards should not suggest the possibility of ridiculous examples. Clearly, this portion of the standards should be tightened by providing a single cumulative permissible total allowance for all such contaminants.

A much improved version could read:

U.S. Sample Grade shall be corn which -- in a 1,000 gram sample contains a cumulative total of more than 5 (?) stones, pieces of glass, crotalaria seeds (crotalaria spp.) castor beans (Ricinus communis), cockleburs, particles of unknown substances(s), commonly recognized harmful or toxic substance(s), and animal filth.

-- At present the standards treat broken corn and foreign material (BCFM) as a single grade determining factor and provides specific percentage allowances for BCFM for each of the five numerical grades of corn. The Federal Grain Inspection Service is attempting to change this approach and should be vigorously supported by the State of Iowa in this effort. The proposed changes would:

(a) Treat broken corn and foreign material separately;

(b) Continue to consider broken corn as a grade determining factor and provide an allowance for broken corn in each of the five numerical grades; and

(c) Most important, remove the economic incentive to have foreign material in the corn by guidelines that the weight of such material not be included in the weight of any lot of corn being bought or sold. A buyer would not have to pay for the foreign material.

-- The State of Iowa should also vigorously support a similar change in how moisture in corn is treated, i.e., not consider the weight of excessive water in corn as part of the weight of the corn itself. To put it another way, corn should be bought and sold on a modified dry-matter basis. More specifically, the standards should recognize that corn ought to contain something like 14 percent moisture to minimize breakage in handling, but moisture in excess of some such figure should not be included in the weight for which the buyer is expected to pay. This change would go a long way toward eliminating the economic incentive for unreasonably high moisture contents in corn.

- Corn standards as they exist today facilitate trade and are very useful to grain merchants. However, grading grain according to these standards yields little information which is helpful to wet millers, dry millers and feed processors in judging the suitability of corn for their purposes. As a

result, foreign consumers of grain are increasingly dissatisfied and are suggesting changes so that the standards will better serve their needs. Remarks representative of customer dissatisfaction include Korean soybean processors who express, "It becomes harder and harder to achieve the level of meal protein required due to the increase in foreign material and the lower content of protein in the beans themselves." Another example from a Japanese corn processor, "There is no difference in the quantity or quality of starch extracted from Nr. 2 corn compared to Nr. 3 corn."

The State of Iowa should actively encourage efforts to make the standards more useful. The goal should be to bring about this needed change without complicating the existing standards to such an extent that they lose their utility in trade. The existing corn standards provide a precedent for how this could be accomplished. An example is the treatment of "waxy corn". The standards now have the following to say about waxy corn:

"Waxy corn-

"(1) Requirements. Waxy corn shall be corn of any class which consists of 95 percent or more waxy corn, as determined by a test approved by the Administrator.

(2) Grade designation. Waxy corn shall be graded and designated according to the grade requirements of the standards applicable to such corn if it were not waxy, and there shall be added to and made a part of the grade designation immediately following the word 'corn', the word 'waxy'."

A similar approach in this form could be taken for new designations to meet new needs, i.e.: "corn, wet milling", "corn, dry milling", and "corn, livestock feed". The authors of this report consider this to be a practical approach, among several possibilities.

The following two subsections are believed to be technically reasonable recommendations to begin more extensive discussions. The discussions should also include other methods of achieving the same goals.

The State of Iowa should take steps to ensure that such discussions begin in the immediate future.

Corn, wet milling:

(1) Requirements. Wet milling corn shall be corn of any class which meets the following requirements, as determined by tests approved by the Administrator:

(a) Starch content, not less than (??) percent, basis (??) percent moisture.

(b) Fractured kernels, not more than (??) percent.

(c) Oil content, not less than (??) percent, basis (??) moisture.

(d) Variation in moisture, not more than (??) percent of the kernels shall contain more than (??) percent moisture.

(2) Grade designation. Corn, wet milling, shall be graded and designated according to the grade requirements of the standards applicable to such corn if it were not for wet milling, and there shall be added to and made a part of the grade designation immediately following the word "corn" the words ", wet milling".

Corn, dry milling:

(1) Requirements. Dry milling corn shall be corn of any class which meets the following requirements, as determined by tests approved by the Administrator:

(a) Whole kernels, not less than (??) percent.

(b) Kernels with stress cracks, not more than (??) percent.

(c) Minimum test weight, 56 pounds per bushel.

(d) Variation in moisture, not more than (??) percent of the kernels shall contain more than (??) percent moisture.

(2) Grade designation. Corn, dry milling, shall be graded and designated according to the grade requirements of the standards applicable to such corn if it were not for dry milling, and there shall be added to and made a part of the grade designation immediately following the word "corn" the words ", dry milling".

A point of major importance here is that a cargo of Nr. 2 yellow corn, wet milling, or Nr. 2 yellow corn, dry milling, could also be bought and sold as ordinary Nr. 2 yellow corn if anyone wished to do so.

The largest quantity of corn in both domestic and foreign markets is used for feed. At least 50 percent of the corn produced in Iowa is consumed as livestock feed as is 70 percent of the corn exported from the U.S. Existing grain standards have been more useful to the feed industry than to

the food processors. However, it also may be appropriate to establish a special grade for feed to describe characteristics related to feed performance. For example:

Corn, livestock feed

(1) Requirements. Livestock feed corn shall be corn of any class which meets the following requirements, as determined by tests approved by the Administrator:
   (a) Starch content, not less than (??) percent.
   (b) Protein content, not less than (??) percent.
   (c) Oil content, not less than (??) percent.
   (d) Crude fiber content, not more than (??) percent.
   (e) Variation in moisture content, not more than (??) percent of the kernels shall contain more than (??) percent moisture.

(2) Grade designation. Corn, livestock feed, shall be graded and designated according to the grade requirements of the standards applicable to such corn if it were not for livestock feed, and there shall be added to and made a part of the grade designation immediately following the word "corn" the words ", livestock feed".

Another suggestion of interest to the livestock industry is to develop a separate grade and standard for broken corn. This would complement the effort to improve grain quality by finding uses for the screenings.

* SPECIFIC CHANGES IN THE STANDARDS FOR SOYBEANS.

Just as there is a need to change corn standards to provide more information to the end user, there is a need to make similar changes in the soybean standards. For soybeans the end user in need of better information is the processor who converts beans to meal and oil. It is strongly recommended that the State of Iowa support the concept of a processing designation in the soybean standards.

Soybeans, processing:

(1) Requirements. Processing soybeans shall be yellow soybeans of any class which meet the following requirements, as determined by tests approved by the Administrator:

(a) Protein content, a minimum of (??) percent, basis 13.0% moisture.

(c) Moisture content of individual beans, not more than (?) percent of the individual beans shall have a moisture content in excess of (??) percent.

(d) Average moisture content, not more than (??) percent.

(e) Discolored beans, not more than 5 percent of the beans shall have seed coats which are green or are other than yellow in color. The hilum of a soybean is not considered a part of the seed coat for this determination.

(2) Grade designation. Processing soybeans shall be graded and designated according to the grade requirements of the standards applicable to such soybeans if they were not processing soybeans, and there shall be added to and made a part of the grade designation immediately following the word "soybeans" the word ", processing".

-- Basic changes should be made in the definition of soybeans. The current definition has few if any virtues. It reads:

"Definition of soybeans.

Grain which consists of 50 percent or more of whole or broken soybeans (Glycine max (L.) Merr.) which will not pass readily through an 8/64-inch sieve and not more than 10.0 percent of other grains for which standards have been established under the United States Standards Act."

This says that a mixture consisting of 50 percent broken beans and up to 50 percent foreign material would legally be considered soybeans. Therefore, such a mixture could legally be blended with beans of higher quality in spite of the recently adopted federal law prohibiting the addition of foreign material to grain. A suggested revised version would read:

Definition of Soybeans.

Grain which consists of 75 percent or more whole soybeans (Glycine max (L.) Merr.) and not more than 3 (?) percent of other grains for which standards have been established under the United States Grain Standards Act. (This may require a change in the definition of mixed grains.)

-- The definition of yellow soybeans should be amended to tighten the standards with respect to green beans and

soybeans of other colors. The definition now reads:

"Yellow soybeans.

Soybeans which have yellow or green seed coats and which in cross section are yellow or have a yellow tinge, and may include not more than 10.0 percent of soybeans of other colors."

Basically this says that green beans shall be considered to be yellow beans. This leads to misunderstandings with our overseas customers. An improved version would read:

Yellow soybeans.

Soybeans which have yellow seed coats and which in cross section are yellow or have a yellow tinge, and may include not more than 5.0 percent of soybeans of other colors. The hilum of a soybean is not considered a part of the seed coat for this determination.

-- As discussed at some length in the preceding section on the corn standard, the soybean standard also contains separate generous allowances for each of a number of possible contaminants such as stones, broken glass, etc.

As was recommended for corn, it is also recommended for soybeans that strong consideration be given to changing the standards to provide only a single cumulative numerical limit for all of these contaminants.

* TIGHTEN STANDARDS TO MINIMIZE DETERIORATION IN TRANSIT.

It is important to note that as yet no legislation has been adopted or changes proposed by FGIS to address two major shortcomings of our national grain merchandising system. These problem areas are:

- One of the most common complaints of overseas users of our grains is that spoilage or undesirable chemical changes occur in cargoes of U.S. grains because very wet grain has been blended into these cargoes. This causes problems even though the average moisture content of a cargo remains at an acceptable level. This must be addressed. One approach is to limit the permissible difference in moisture contents of grains that may be blended. Four percentage points has been suggested by some authorities. Another approach is to limit the maximum variation in moisture among kernels constituting a cargo or a lot of grain. As noted in Section VI, more

testing needs to be done of equipment suitable for measuring such moisture variations, but such equipment will soon be in the field, probably during 1988. A third approach would be to define corn and soybeans as grain containing not more than 14 (?) percent moisture. With such a system grain of higher moisture would not be available for blending. Brazil approaches the problem in this manner. A high priority should be given to bringing about change to address this problem.

- At present there is nothing to prevent the export from the U.S. of officially certified cargoes of grain which are known by FGIS to be absolutely certain to spoil before they reach their destination. An example would be a cargo graded U.S. Nr. 3 yellow corn containing only 10 percent completely whole (unbroken) kernels, having maximum allowable broken corn and foreign material, with 16 percent average moisture content and a major fraction of kernels containing over 18 percent moisture, loaded hot, and destined for a long voyage through the tropics. FGIS has no authority to refuse to certify or to prevent such shipments. This constitutes totally unacceptable national policy. FGIS should at least be given authority to test to identify such lots and to withhold certification, according to objective criteria established by the Administrator.

* OTHER SOLUTIONS.

A substantial portion of this section of the report has been used to outline how the "waxy corn" approach could be used to modernize our corn and soybean standards. The authors emphasize that this is not the only way to adapt our current system of numerical grades to convey more information on intrinsic value to end users. One other approach involves more extensive use of detailed specifications in contracts. Another is for the Federal Grain Inspection Service to report measurements of such things as protein, oil and starch contents on export certificates in addition to stating a numerical grade and moisture content. Each method has its strengths and weaknesses. The really important goal is to make rapid progress toward providing end users better information on intrinsic values that are important to them. As a matter of principle, buyers should have to go out of their way to receive poor quality, but not to receive good quality. The base grades should assure grain of good quality. Any means that will achieve this goal should be supported by the State of Iowa.

* POSITIONING OURSELVES FOR THE FUTURE.

It is time to stop expecting customers to buy what we produce and to begin producing what they want. More and more, what our

grain customers want is quality tailored to their specific needs. This will require producers and country elevators to do far more segregating of grain according to these factors than they do at present.

The State has an important role in enabling Iowa producers and warehousemen to be in a position to meet the challenge of the future. The response of the Federal Grain Inspection Service to grain quality concerns is generally encouraging. However, Iowa can provide needed leadership to bridge this period of transition and ensure that the desired change is not long in coming.

Section VIII. DISCUSSION OF OPTIONS FOR THE STATE OF IOWA.

* GENERAL.

The basic purpose of this study is to identify various options for the government of the State of Iowa to pursue in response to the grain quality challenge. It is not the purpose of this report to urge upon the State a set of rigid recommendations. Rather, the report provides guidance to state policymakers as they search for an approach to the quality grain issue that makes political, fiscal, and economic sense.

This section addresses directly the task of identifying such options.

* BROAD STRATEGY FOR IOWA GOVERNMENT.

- General.

In developing a broad strategy for how the State of Iowa should participate in solving the problems of grain quality, the choice of a principal policy goal should receive careful consideration.

Basically, the choice is whether the focus should be on the rather narrow goal of increasing exports or on the broader goal of enhancing Iowa's natural advantage as a source of quality grain. The authors urge the latter. The following paragraphs outline important factors in making this choice.

- Limitations Of Increasing Exports As The Principal Policy Goal.

Both the United States and the State of Iowa must strive to increase grain exports. But the State of Iowa should recognize that:

-- Profit margins on exports are thin;
-- Competition, both domestic and foreign, is fierce;
-- Obstacles are many and serious; and
-- The State of Iowa is not an especially good geographic unit for development of a separate policy on agricultural exports.

- Comparative Advantage Of Iowa And The Upper Midwest In The Production Of Quality Grain.

Unquestionably Iowa and the Upper Midwest are naturally endowed with many agricultural advantages. The region is ideally suited for consistent, cost-efficient production of high quality grain. Such areas are rare in the United States and in the world. A strong case can be made that Iowa would be better off if the less efficient producing regions both here and abroad stopped raising corn and soybeans. Iowa must compete against such inefficient regions, both domestic and foreign.

- Role Of Iowa Quality Grain In The U.S. Marketing System.

In the U.S. grain marketing system a principal role of quality grain from the Upper Midwest is for blending material to make marketable low quality grain from other regions of the U.S. This is not in the best interest of Iowa agriculture, especially when Iowa producers are not fully compensated for the quality of their grain. Obtaining full compensation for quality is just as important as increasing exports.

- Strategic Goal Of State Policy.

The authors of this report conclude that the goal of state involvement in the quality grain issue should be to increase demand for Iowa corn and soybeans in all markets, both domestic and foreign, and to ensure that commercial markets can fairly compensate producers and local grain merchants for grain quality.

* STATE GRAIN EXPORT TRADING COMPANIES.

- General.

For several years Iowa politicians have vigorously debated the merits and demerits of establishing a grain export trading company associated in some manner with the government of the State of Iowa. This study has not focused narrowly on this possibility. However, many of the subjects the study has examined in some detail do provide insight into the prospects of export trading companies associated with governments. This subsection summarizes the views of the authors of this report on the subject.

- The Vacuum To Be Filled.

In recent years AGRI-Industries has been the only major Iowa company to focus on exporting grain. The break-up of AGRI-Industries several years ago, following legal and financial problems, created something of a vacuum. To date that vacuum has not been completely filled. Iowa now has little direct access to world markets. The grain producers and warehousemen of Iowa are still largely dependent upon the major international grain companies to export the state's production. Under these circumstances it naturally occurs to political leaders that perhaps state government could act to speed the evolution of a system that provides more direct access to world markets. In short, a need does exist.

- Obstacles To Success.

"There are few success stories in this fledgling [export trading company] industry. Only 28 of 41 bank-owned export trading companies founded since the enactment of the 1982 Export Trading Act have survived. In all, there are only 100 export trading companies in the United States. Even the successful ones are struggling." (Heinz, "Our Hogtied Export Traders," Journal of Commerce, October 13, 1987.)

For new export trading companies, whether privately held or publicly owned, many of the obstacles to quick success are identical. Such obstacles include, but certainly are not limited to, the following:

-- The very narrow profit margins in the grain export business today (a few cents per bushel) and the resulting difficulty of keeping a company in the black;

-- The large size and high dollar value of a typical transaction, with the resulting need for solid financial backing by a major bank.

-- The absolute necessity of a large, totally dependable network for collection and timely shipment of grain to export terminals, and the substantial quantities of grain involved (Four 100 car trains for a single vessel);

-- The short time available to respond to typical tenders (1 to 2 days);

-- Complexity of the grain export business and unfamiliarity of newcomers with many of the vital details (See Summary of Grain Contracts, Annex A.)

-- Opposition of the major grain companies to any serious challenge, including failure to cooperate except on their own terms, and determined efforts to underbid any newcomer;

-- The difficulty of negotiating railroad freight rates that are competitive with the unpublished rates that have been negotiated by the major grain companies;

-- Lack of assured access to major terminal facilities in Iowa where grain can be assembled and from which it can be shipped by either river or rail; and

-- The huge capital costs of building such facilities, should that be necessary.

- Degrees Of State Involvement.

There are, of course, many possible degrees of involvement of the State of Iowa in an export trading company. For the purpose of simplification this section briefly considers 3 representative possibilities:

-- A state owned and operated export company;

-- A company in which the state retains partial interest, control, or liability;

-- Numerous companies in which the state has no financial interest, control or liability but which evolve naturally and are encouraged and assisted by support services established by the state -- available to any person who wishes to become involved.

The following 3 subsections briefly discuss each of these possibilities.

- State Owned And Operated Export Company.

-- Government owned and operated grain companies which have national monopolies are common on a world-wide basis. Their records of success or failure vary widely. Two examples of the many that have been successful are the Canadian Wheat Board and the Exportkleb of the USSR. Total disasters have resulted from the policies adopted by others, many in Africa and among developing

countries elsewhere.

-- Success stories for government grain trading companies that do not have national monopolies, or function only within a political subdivision such as a state of the United States, are much harder to find. Actually, the authors of this report are not aware of any they consider to be successful. In other words, empirical evidence suggests that without a national or regional monopoly, the probability is very low that a government owned and operated grain trading company can be a financial success. Such institutions seem unable to compete with a vigorous private sector. There seems to be little evidence to suggest that a grain trading company owned and operated by the State of Iowa would fare differently.

-- Finally, the option of state ownership and liability seems to be blocked by the provisions of Article VIII, Section 3, of the Iowa Constitution which states, "The State shall not become a stockholder in any corporation, nor shall it assume or pay the debt or liability of any corporation, unless incurred in time of war for the benefit of the State." Changes to the Constitution are, of course, possible, but difficult to say the least.

- Export Company With Partial Interest, Control, Or Liability Retained by State.

  -- The words, "partial interest, control, or liability retained by State" obviously cover a wide range of possibilities. Therefore, comments in this subsection are necessarily general in nature.

  -- Once again, as noted in the preceding subsection, constitutional restraints exist. In addition to Article VII, Section 3, quoted above, other relevant parts include Article I, section 6; Article III, sections 1 and 12; and Article VII, section I.

  -- Constitutional considerations aside, partial state control or participation in management is far more likely to reduce rather than enhance the effectiveness of a grain trading company. A state grain trading company must compete successfully with the best entrepreneurs in the grain business. These are persons who have devoted essentially all of their professional lives and personal energies to trading grain. As a result they have risen above all competition. Such people are essential to any export company. Generally speaking, such persons recognize the limits of a state owned trading company

and avoid service in companies associated in any way with government. In addition, the salary requirements to attract qualified, experienced personnel will almost certainly exceed what the state could pay. For example, North Dakota is currently having difficulty in hiring a manager for their state owned flour mill. No one with the necessary qualifications is willing to accept the position.

-- Government participation in management not only drives away the most talented, but has other negative effects including:

(a) Slows and complicates the decision making process.

(b) Offers the constant temptation to allow the organization to become more of a political than a merchandising enterprise.

(c) Leaves the organization more exposed to political pressures brought to bear by other economic interests or the press.

-- North Dakota provides an excellent case in point. Unlike Iowa, the State of North Dakota owns a flour mill, a bank, an elevator, and has formed an export

trading company. The bank and elevator should significantly increase the likelihood of success for the trading company; however, the first effort was a dismal failure and has paralyzed the trading company. The future of the company remains uncertain as the political leaders try to salvage the company with a public stock offering.

The misfortunes of North Dakota's export trading company (Complete story attached as Annex C.) illustrate how quickly the complexity of exporting can overwhelm the inexperienced. This is of course a problem that is not limited to the public sector. North Dakota's difficulties also highlight the concern that political pressures become inherent disadvantages. Despite sincere intentions to help producers, in the end it is the farmers who have been failed. Elected leaders in Iowa and other states should exercise caution when tempted to create such enterprises.

-- In short, a grain trading company in which any significant management authority is retained by the state will not be able to compete, in spite of state efforts to tilt the balance in its favor.

- Trading Companies Encouraged And Assisted By Support Services Provided By The State.

The most promising approach to state participation in grain trading is by providing appropriate incentives, information and support. This assistance should be available to any person who wishes to become involved. The following subsections outline ways of providing such assistance.

* COMPUTERIZED QUALITY GRAIN MARKETING SYSTEM.

- General.

One of the most promising options for action by the State of Iowa is development of a computerized information system to serve agriculture. A major goal would be to expand both domestic and foreign demand for quality grain from Iowa and similar areas of the Upper Midwest. The computerized network, serving as an electronic warehouse, would provide the information needed to remove quality grain from the generic market channel. Such a system would bring producers and end users one step closer together. It should not be confused with a marketing advisory service. (See related story, "A Grain Marketing Revolution?" as Annex D.)

- The Quality Connection.

This report has noted the lack of an adequate system of open communication between those who would sell high quality grain and those who would buy such grain for export or consumption. Until such a direct channel is opened the principal economic function of good grain from Iowa will be to provide blending material to the trade.

The key distinction of this service will be identification of grain by quality factors. The function of the computerized network will be to collect and disseminate information on the location, quantity, and intrinsic characteristics of grain offered by potential sellers. The system should also make available information setting forth the needs of potential buyers. A pricing mechanism utilizing bids and offers should be included. Such a marketing service should not be limited to Iowa grain.

Time will be required for the service to become widely used. Commodity organizations have an important role in promoting this as a marketing mechanism through their members. Once the system is developed it may be appropriate for the service to become a private sector enterprise. If the interest in quality grain is sufficient, the computerized information network could evolve into a cash grain exchange specializing in quality.

- Precedent For State Participation.

The State of Iowa has a long history of providing financial support to ensure that up-to-the minute marketing information is available to all farmers and commercial interests. The system has been, and now is, highly efficient and cost effective. It uses the best technical means that were available when the system was initiated. But both the system and the State's financial commitment to assure Iowa farmers access to markets must be expanded to meet the challenge of the computer age.

It is important to note that other states are developing computerized marketing systems. For example, the University of Illinois recognizes the potential of modern communication systems and is aggressively pursuing program development in this area.

- Cooperation With Other States.

The State of Iowa should proceed to establish a computerized marketing system with or without participation of neighboring states. However, a joint effort with neighboring states would offer many efficiencies including identifying sufficient quantities of quality grain to attract more buyers to the

marketing service.

- Placement Of Responsibility Within State Government.

The authors suggest that principal responsibility for such a computerized information and trading system be assigned to Iowa State University. Other organizational approaches could of course also be used. However, a number of factors support the logic of such an assignment:

-- Historically the University, the Extension Service and the WOI stations have provided comparable services, but through much simpler communications techniques.

-- A computerized system must, eventually, for reasons of economic efficiency among others, provide Iowa agriculture with a wide range of technical information services beyond marketing. The University is ideally suited to these other functions as well.

-- The chances for interstate cooperation are far better among the land grant universities than with other political institutions of the states. The land grant universities have long cooperated in a variety of ways on support of agriculture, and well-established channels

exist for federal financial assistance to such efforts.

-- An university/industry partnership is a a favorable possibility.

-- Iowa State University has recently received federal funding for an international trade information service. Close coordination with that program as it develops is desirable.

- Financial Commitment.

There should be no illusion in either the executive or the legislative branch of state government that the goals of this option can be accomplished with only token financial support from the State. A long term commitment of considerable resources will be required.

- Re-examination Of Current Information Programs At Iowa State University.

Initiation of a new computerized marketing and technical information system at Iowa State University should be accompanied by an examination of the effectiveness of existing

information systems. Given the competition that exists today for limited state and federal financial resources, the need to expand and revise existing programs to provide new services may require discontinuing some of the older programs.

* MIDWEST INTERSTATE GRAIN COMPACT.

" An interstate compact is one way in which two or more states can address an issue of common interest. Generally compacts are formed in response to a problem that goes beyond a state's individual ability to resolve, or to one which the federal government is unable or unwilling to satisfactorily address." (Nichols, The Development And Uses Of Interstate Compacts, September 1986.)

Five states; Iowa, Nebraska, Minnesota, Wyoming, and New Mexico, have formed such a compact on agricultural grain marketing. The purpose of the compact is not restricted to grain quality; however, dissatisfaction and frustration with the federal government's attitude toward grain quality makes this an issue of great interest to the compact.

The purpose of the agricultural grain marketing compact as defined in the law is generously broad:

" to protect, preserve, and enhance the economy, general welfare, . . . and continued production of agricultural grains."

The powers and duties of the commission are limited. They are:

- to conduct studies of agricultural grain marketing practices, procedures, and controls;

- to make recommendations for solutions or develop alternatives -- including development, drafting, and recommendation of proposed state or federal legislation.

As noted several times elsewhere in the report, there is a need for states in the Midwest to work together. The compact offers a means for exchanging information and advising state policymakers.

The authors are encouraged by the spirit of cooperation exhibited by the commission, especially an apparent movement away from a minimum pricing concept for grain, which originally seemed to be a major objective.

The commission's first organizational meeting was held in late September, 1987, and they have yet to define specific goals.

Final judgment on the compact's role in solving grain quality problems is reserved until such goals are known. Iowa, having advanced further in the study of grain quality and marketing than the newly organized compact, should take a leadership role in developing the compact's response to this issue.

The effectiveness of the compact is limited unless more states join. Today most of the participating states other than Iowa are oriented more toward wheat than corn and soybeans. From Iowa's perspective states with common interests are needed, such as Illinois, Indiana, and Ohio that also produce corn and soybeans in large quantity.

* SPECIAL GRAIN STANDARDS FOR IOWA OR THE MIDWEST.

This report discusses at length the technical shortcomings of existing U.S. grain standards. Recommended corrections are also identified. Quite naturally state leaders, with a sincere desire to overcome inadequacies in federal standards, may consider the possibility that establishing special state or regional standards might increase both domestic and foreign

sales of Iowa grain.

This appears to be a simple and straightforward solution. However, it is a thicket best avoided. The reasons for this view are:

- Establishing a set of state standards as a substitute for U.S. grain standards would result in further confusion. It is increasingly recognized that many quality grain problems are the result of differing national standards. Differences in standards among the political subdivisions of individual nations would be disastrous. More uniformity around the world and not less is what is needed. In fact, it has been suggested that an international certificate of quality be developed. Such a certificate would report intrinsic characteristics of the grain. No country's standards currently measure these factors. Iowa should support discussions of this concept. However, it should be recognized that establishing such a program would take time.

- Similarly, simply establishing an Iowa premium grade is not adequate. Quality desired is different for each end use. Several sets of requirements for defining a "premium" grade exist. For the grade to be meaningful, a large volume of grain fitting the criteria

must be available. End users need a supply that is reliable in terms of quantity as well as quality. A single state is unlikely to have sufficient quantities of grain in each category to generate trade.

* AN IOWA CERTIFICATE PROGRAM.

There is no reason to establish Iowa standards in order to provide customers the information they seek. Upon request, FGIS provides information for non-grade determining factors in the comments section of the export certificate now in use. Following this precedent, Iowa could establish an Iowa certificate program.

The certificate would affirm measurements of requested nutrient factors and related characteristics as opposed to reporting that the grain meets an established set of requirements. Buyers could request information on one or more quality factors. The certificates could be issued routinely, confirming tests by licensed testing firms, as a service to enhance the value of Iowa grain. Such a program would provide a means of emphasizing the quality factors in which Iowa grain excels. (See Grain Standards Subcommittee Report, Section X.)

The Department of Agriculture and Land Stewardship would be responsible for regulating the certificate program by licensing private sector inspection agencies and establishing procedures for factor certification.

Domestic processors can be expected to use the certificate program sooner than foreign end users. However, this will demonstrate the merits of the program to the export market.

An Iowa certificate can be an effective marketing tool if it is not encumbered by undue state regulations.

* DOMESTIC MARKET OPPORTUNITIES.

Domestic processors have less difficulty obtaining the quality of grain they desire than do foreign buyers. However, the State could provide an important service to assist production for the domestic market. What is needed is a list identifying the processors located within Iowa and surrounding states, the special grain characteristics important to these processors, and a description of the ways each processor purchases grain. The availability of this information would allow producers to select varieties and make marketing decisions based on the needs of potential customers.

This will be an important step in beginning to direct grain to its highest value market.

* EVALUATION OF QUALITY CHARACTERISTICS OF AVAILABLE VARIETIES OF CORN AND SOYBEANS.

A way in which the State of Iowa could make rapid progress on grain and oilseed quality would be to bring to public attention the quality characteristics of presently available varieties of corn and soybeans. A number of steps have been taken in this direction already. The current program is excellent, but the level of effort should be increased. This could be done at little cost. It will require some testing, but much of the data is currently available.

Not only is this an important service for producers but also it provides a significant marketing opportunity. A number of commodity organizations in other states promote grain sales based on annual reports of quality. For example, the Nebraska Wheat Board conducted a wheat quality survey in 1986 and by variety issued grade certificates, measured protein, dark, hard and vitreous kernel count, and dockage. This information was published and distributed to end users. It is important to note that there are a number of organizations in addition to the State which will distribute the information, including

international offices of commodity organizations and the Foreign Agricultural Service of USDA.

Iowa should take the lead in stimulating progress. Iowa State University and the Extension Service are in a good position to play an important role in this effort. In fact, Iowa State, beginning this fall, will provide information on protein and oil content in their soybean variety test results. It is essential that similar data on the resistance of corn varieties to breakage and stress cracking, as well as protein and starch contents, also be publicized. The information should be presented in a manner that emphasizes the value of differences. Even a small difference in oil content, for example, can make a very large difference in the profits of a bean processor.

* <u>SUPPORT FOR RESEARCH, DEVELOPMENT, AND TESTING.</u>

- General.

A very important option that should be given the most serious consideration by state government is increased support for research, development, and field testing in areas that will enhance marketing of Iowa quality grain.

Some efforts must of course center on research directed toward long-term goals. Others should focus on development and testing to meet immediate needs where quick results can reasonably be expected at relatively moderate cost. This report tends to emphasize the latter. Important options are outlined in the following subsections.

- Testing Equipment.

For many years the professional literature relating to grain quality has noted the need for new types of equipment to rapidly measure grain characteristics of growing interest to consumers of corn and soybeans. Examples of such equipment include devices to quickly measure protein and oil content of soybeans and the moisture content of individual kernels of corn and soybeans. Practical models of such equipment are needed in the field immediately. Only when such equipment is available at local elevators will they be able to identify and properly segregate the grain most in demand by consumers.

For years, the professional literature has described available technology that could produce the desired results. However, practical equipment has been extremely slow to move out of the laboratory and on to field testing and commercial production. Iowa State University has been a leader in this work and

increased funding should yield high returns quickly.

It should be noted that a number of Kansas and Nebraska elevators are now equipped with near infrared reflectance equipment for testing protein content of wheat. We in Iowa must move to the field comparable equipment for corn and soybeans.

- Continuing Need For Plant Breeders, New Varieties And Inbred Lines.

Today the buzz word is "biotechnology". Clearly this area must be the focus of a great deal of long-term research if U.S. agriculture is to maintain its competitive edge. However, there seems to be a growing misconception that biotechnology will eliminate the need for classical plant breeding and the development of new varieties and inbred lines. Not so. The plant breeders' work begins where biotechnology, in the popular sense of that term, leaves off.

Turning to related problems, there is a great need for development of new soybean varieties and new publicly owned inbred lines of corn. In the recent past, emphasis has been placed on developing varieties and inbred lines that enhance yields. Some of these actually led to reductions in grain

quality. This work should continue, but Iowa must also do far more in the years just ahead to develop seeds that will allow us to respond to the call for higher quality and special characteristics. It is important to note that much of this work should be done at public institutions if we are to avoid the trap that proprietary lines pose for the smaller seed companies. It is also important to note that increased state funding for such work will also increase opportunities for graduate work in plant breeding at Iowa State University.

- Uses And Markets For Low Quality Grain, Broken Grain, Foreign Material and Grain Dust.

Traditionally we have disposed of low quality grain and screenings through blending with sound grain. Blending for this purpose faces growing opposition. But something must be done with the less desirable components. The industry is puzzled as to where the best opportunities lie. Appropriate markets have not been developed. Increased funding for work in this area at Iowa State University should be seriously considered. Iowa State has already done some very interesting work in collecting economic and engineering data on burning sample grade corn in traveling grate boilers. This work should be extended to include burning foreign material. Consideration should be given to providing the state universities financial

incentives to routinely burn screenings. Producers need to be fully informed more about the pros and cons of feeding lower grade grains. In short, we must learn to use more of our lower grade grain and screenings at home rather than sending them to our foreign customers.

* TRACKING TRADE LEADS.

Generally there are two types of trade leads:

- Tenders widely distributed throughout the trade.

- Direct inquiries to Iowa due to our special interest in and commitment to quality, and also due to the end user's dissatisfaction with the current marketing system.

There is no shortage of trade leads of either type. The Governor, the Secretary of Agriculture, the Department of Economic Development, the soybean and corn producer groups, and grain merchants all receive such inquiries daily. Some are serious intentions to buy. Many are not.

Currently, there is no organized method of matching credible buyers with appropriate suppliers. This is equally

discouraging to persons desiring to purchase directly from Iowa and to producers. It is especially important that persons desiring to work directly with Iowa receive careful consideration and assistance. In large measure, the hope of addressing this very issue generated the support of the commodity organizations for this study.

Tracking trade leads is a time consuming process. It is important to avoid duplication of such efforts but equally important to ensure that Iowa is responsive to all inquiries. Eventually this can be handled best through the computerized trading system, but for the short term another approach is necessary.

One person whose entire responsibility is to respond to such leads could represent the interests of the State and the commodity organizations. This could be a state project or jointly funded by producer groups. This person should work closely with Iowa's foreign offices and commodity organizations. Coordination with the computerized information system is also needed. It would not be the role of the State to consummate the transactions. The service of sorting the trade leads and matching with appropriate suppliers should be provided for all merchants, including the major grain companies.

* ASSISTANCE ON EXPORT CONTRACTS.

As noted in Section V, one of the most complex and difficult subjects an exporter of grains must master is that of export contracts. (For more information see Annex A.) A great deal of assistance will certainly be required by any novice. In many instances mastery will probably prove to be impractical for a would-be exporter of bulk cargo.

A program designed to provide assistance to exporters new to the grain trade must include basic contract information and a referral service to sources of experienced, competent legal assistance.

* GRAIN SAMPLES AS A SALES AND PROMOTIONAL TOOL.

Several of our competitors in the world grain markets, Canada among them, use grain samples as a powerful sales tool. Each year following harvest they prepare samples of cleaned grain and send them to foreign customers with a statement that grain imported from their country will be as clean and attractive in general appearance as the samples. The program is effective and relatively inexpensive.

It is suggested that the Iowa Department of Agriculture consider developing a comparable program in close cooperation with Iowa's corn and soybean promotion boards. The results achieved by the pork industry through their quality meats program demonstrate what can be accomplished.

However, the focus of an Iowa program to use grain samples as a sales and promotional tool should be somewhat different from the Canadian example noted here. The general appearance and numerical grade of the sample should of course be good, but the key feature of the samples should be the high intrinsic value of the corn or soybeans, i.e. high protein, oil, starch content, etc. Further, the program should encourage the recipient of the sample to conduct tests for intrinsic value. There are two areas for caution, however.

First, the national corn and soybean organizations may have somewhat limited enthusiasm for such an Iowa effort. A principal reason, of course, is that they also represent producers of much lower quality products in other parts of the country. Second, there may be some in the General Assembly or the Executive Branch who will be tempted to structure a system of strict laws, regulations and penalties to assure grain quality in connection with such a program. If the program is to succeed, these temptations must be resisted.

* TRANSPORTATION AND FREIGHT RATE ASSISTANCE.

The typical Iowa grain merchant or producer with an interest in exporting can be quickly overwhelmed by the complexity of transportation problems and the absence of freight rate information. To make matters worse, the railroads, barge lines, and ocean freight brokers appear to have little interest in working with the small shipper to resolve such problems.

A point of importance is that these difficulties are not limited to grain exports, but occur in connection with other export products as well.

It is recommended that the State of Iowa consider providing assistance in this area. Specifically, it is suggested that either the Department of Economic Development or the Department of Agriculture and Land Stewardship be responsible for responding promptly and in detail to requests and questions relating to transportation and freight rates. In addition to quickly providing such information the Department should be prepared to work on a continuing basis with exporters facing transportation obstacles that impede the export of any type of Iowa product.

* EXPORT AND MARKETING SUPPORT PROGRAM.

- General.

As noted elsewhere in the report, the shortage of credible Iowa "sellers" in the international grain markets, especially sellers capable of merchandising large containerized or bulk cargoes, is a critical issue. Therefore, the State of Iowa should initiate a vigorous program to encourage the emergence and development of such grain merchants, both large and small. This subsection summarizes desirable state initiatives to accomplish this goal.

Many more Iowans are intrigued with the possibility of becoming exporters of grain than will ever do so. Only a fraction of those who seek state assistance will persist and actually succeed. The State has an interest in helping even those who do not become exporters. A point of significance is that any Iowa producer or grain merchant who devotes time and effort to gaining a working knowledge of the export process will become a far better marketer of grains. To state it differently, a secondary but important goal of the assistance program should be to educate Iowa producers and grain merchants. Progress toward achieving this goal will, in itself, justify the program. In short, Iowa needs a

coordinated export and marketing support program.

- Grain Export And Marketing Clearinghouse.

The key to success of a quality grain export and marketing support program will be a clearinghouse for information. The clearinghouse should be fully responsive to requests for information and assistance from all who seek it. This includes both the large and the small entrepreneur, the producer as well as the grain merchant, the curious and the truly serious, the government executive, the legislator, the public and the press.

The clearinghouse should be a mechanism for providing detailed information on how the grain marketing and export system functions. Lack of understanding of the system allows the exploitation of the Iowa producer of quality grain and oilseeds.

Many of the recommendations for state assistance discussed in detail in preceding sections of the report can be effectively drawn together through a clearinghouse mechanism:

-- Computerized marketing system. A system to provide a direct communication network for those who want to buy and those who wish to sell quality grain and oilseeds, including bid and offer price information. (Section VIII, page 110.)

-- Domestic market opportunities. Potential exporters must also have ready access to information on domestic markets for quality grains.
(Section VIII, page 120.)

-- Quality characteristics of available varieties of corn and soybeans. Access to detailed information on characteristics describing the quality of corn and soybeans specified by variety is a prerequisite for merchandising based on quality specifications.
(Section VIII, page 121.)

-- Tracking trade leads. There is a constant flow of inquiries from potential buyers of grains and oilseeds to Iowa agencies and producer groups. A mechanism is needed to ensure that this buyer interest is made known to suppliers. It is also

important that suppliers follow up on these leads. (Section VIII, page 126.)

-- Transportation and freight rate assistance. One of the greatest obstacles the would-be exporter must overcome is the complexity of the grain transportation system and the inherent disadvantages facing a small grain merchant. State assistance is essential. (Section VIII, page 130.)

-- Assistance on export contract terms. There is a vast array of terms and details with which an exporter must be familiar and prepared to respond. A small exporter or individual will require experienced, legal assistance with the complexities of export contracts. (Section VIII, page 128.)

The clearinghouse should also provide the following types of information:

-- Approximate prices for standard grade grains at Gulf ports, Great Lakes ports, Pacific and Atlantic coasts and guidance on where to obtain more detailed information.

-- Information on elevation and inspection services and their approximate costs at rivers, lake and coastal ports.

-- Sources and approximate costs of other services such as stevedoring, stowing and trimming, insurance, demurrage, barge fleeting facilities, freight forwarding, bagging of grains, export financing, ocean shipping brokers, etc.

-- Experienced persons or firms willing to serve as "sellers".

- Personal Assistance To Exporters And Those Interested In Exporting.

The clearinghouse organization in addition to providing information should include a project officer(s) to work one-on-one with the more serious exporters.

* SUBJECTS FOR ADDITIONAL STUDY.

In this report a number of subjects are discussed favorably which are not included among the options recommended for consideration by the State. Several of these have interesting possibilities and warrant more detailed investigation. Subjects suggested for additional study are the following:

- The merits of a port authority on the Mississippi and Missouri Rivers.

- The adequacy of Iowa's grain warehousing. The question here is not whether the storage capacity is adequate, but rather whether the warehousing is well suited, well located, and readily available for competitive marketing of quality grain in the 1990's.

- The adequacy of Iowa's grain transportation systems. Here the relevant question is why is it so difficult for Iowa producers and small grain merchants to move grain at competitive cost, and what can be done to alter the situation.

* A SHORT-TERM MARKETING STRATEGY FOR IOWA.

Many of the recommendations in this report are for actions that will yield maximum results gradually over a period of time.

However, there are both economic and political needs to identify a short-term strategy that offers good prospects for early promotional and marketing success.

One of the best prospects for relatively quick success would be a program focusing on the outstanding capability of Iowa to produce corn and soybeans with high intrinsic values. To be more specific, Iowa has the ability to consistently produce corn and soybeans not only of good quality but also of superior oil, protein, starch content, etc. This is the capability upon which to capitalize and build as opposed to dwelling excessively on the more general goal of promoting "high quality grain" in the generic sense of that term.

Reasons for focusing promotional and marketing efforts on inherent value to the end users include the following:

- The time is right for processors. Corn and soybean processors in both Europe and the Far East are becoming keenly aware of the importance of oil,

protein, starch content, etc. in determining processing profits and customer satisfaction.

- The time is right from a technical perspective. New and sophisticated equipment to quickly measure oil, protein, starch, etc. of corn and soybeans is just now becoming available and accepted by the agricultural industry from seedsmen and producers to processors.

- The time is right for Iowa. This year for the first time Iowa will report oil and protein contents in connection with its official yield test program for soybean varieties. Most important, there exists strong public support in Iowa for economic development.

In short, now is the time for Iowa to further enhance its inherent advantage by seizing this market opportunity and capitalizing on it. Iowa leaders, by anticipating the future, can give Iowa producers a long-term market advantage.

Both the technology and the recognition of the value of intrinsic factors are further advanced for soybeans than for corn. The most immediate target of this marketing effort should be the soybean processors of West Germany,

The Netherlands, Japan, Korea, Taiwan, and Mexico. All have recently initiated contacts with Iowa to discuss quality problems they are having with generic soybeans from the United States. At the same time it is essential that substantial resources be devoted to developing the needed technology for corn and educating end users about the importance of quality factors.

Section IX. SUMMARY OF OPTIONS RECOMMENDED FOR CONSIDERATION BY THE STATE OF IOWA.

* GENERAL.

The preceding sections of this report explore in some depth the realities of the quality grain issue and the export challenges facing Iowa. In addition, a number of options are developed for constructive steps that could be taken by the State to improve the situation.

This section (IX) briefly summarizes a set of those options believed to be appropriate for state government and to offer the most promise for increasing markets for Iowa grain.

* IMPORTANCE OF THE PRESTIGE OF THE STATE OF IOWA.

To be successful, any state program to address the quality grain problem must have the vigorous and continuing support of the Governor, the Secretary of Agriculture, the General Assembly, and other Iowa leaders in both the public and private sectors.

Only such unified leadership can bring to bear the prestige of the State of Iowa so essential to success.

Assuring cooperation and vigorous support should be a prime consideration as the State defines in detail its program to address the problems of grain quality.

* STRATEGIC GOAL OF STATE POLICY.

The basic long-term goal of state involvement should be to increase demand for Iowa corn and soybeans in all markets both domestic and foreign, and to ensure that commercial markets can fairly compensate producers for grain quality. (Section VIII, page 101.)

* SHORT-TERM MARKETING STRATEGY FOR IOWA.

The short-term promotional and marketing efforts of Iowa and its producers should focus on the outstanding ability of the State to consistently produce corn and soybeans not only of good quality but also, and more important, of high inherent value to users of raw grains. Iowa should capitalize and build on this ability to produce grains with superior oil, protein, and starch content, etc.

This effort should also focus on the ability of Iowa producers to tailor their products to meet specific needs. The time is right for this strategy, technically and from the point of view of both end users and Iowa producers. (Section VIII, page 137.)

* COMPUTERIZED QUALITY GRAIN MARKETING SYSTEM.

Iowa should expand its efforts to develop a computerized information system to serve agriculture. A major goal should be to facilitate the marketing of grain with specific quality characteristics (oil, protein, and starch content, etc.) desired by domestic and foreign users of raw grains. At present there is no efficient means of communication between potential buyers and sellers of such grains. The system should provide a means of disseminating information on the location, quantity, and selected characteristics of grain offered by potential sellers. Similar information on the specific needs of potential buyers should be dispensed also. A pricing mechanism utilizing bids and offers should be included.

The system should generally be accessible to all parties from the smallest producer to the largest grain merchant. User fees would, of course, be appropriate.
(Section VIII, page 110.)

* EXPORT AND MARKETING SUPPORT PROGRAM.

The State of Iowa should initiate a program to encourage the development of grain merchants, large and small, who desire to sell Iowa grain in international markets.

The key to success of an export and marketing support program will be a clearinghouse for information. The clearinghouse should provide detailed information on how the grain marketing and export system functions.

Specifically, the informational needs of those who would export quality grain include, but certainly are not limited to:

- Assistance on using the Iowa computerized quality grain marketing system;
- Domestic and foreign marketing opportunities;
- Assistance on export contract terms;
- Guidance on export financing;

- Assistance with relevant federal programs such as PL 480, GSM 102, GSM 103, and export enhancement;
- Assistance with transportation and freight rates;
- Data on approximate prices for grains at important U.S. and foreign ports;
- Information on elevation and inspection services at inland and coastal terminals;
- Assistance on ocean shipping brokers;
- Sources and approximate costs of other services such as stevedoring, stowing and trimming, insurance, demurrage, barge fleeting facilities, freight forwarding, bagging of grains, etc.; and
- Data on the grain quality characteristics of corn and soybean varieties.

The clearinghouse organization should in addition to providing information, include a project officer(s) to work one-on-one with the more serious exporters. (Section VIII, page 131.)

* RESEARCH, DEVELOPMENT AND TESTING.

The State of Iowa must increase support for research, development, and testing if Iowa is to be a leader in marketing quality grain. The most important goals of this work are:

- Increased testing of corn and soybean varieties to determine their ability to produce grain with the quality characteristics preferred by our customers.

- A strengthened program to develop new varieties and lines in soybeans and corn with improved grain quality characteristics.

- Equipment to quickly measure grain quality characteristics such as oil, protein, and starch content. This is needed in the field at the earliest practicable date.

- Fielding equipment as soon as practicable to measure the moisture content of individual kernels of corn and soybeans.

- Determining new uses and markets for low quality grain, broken grain, foreign material and grain dust.
  (Section VIII, page 122.)

* CHANGES IN FEDERAL GRAIN STANDARDS.

A high priority should be given to bringing about change in the official U.S. grain standards and procedures for corn and soybeans. Change should be in a direction to:

- ensure that foreign buyers receive the full value they pay for, and

- provide more information on intrinsic factors needed by end users to determine the economic value of grain (oil, protein and starch content). This will encourage the production and sale of high quality grains.

There are a number of methods for achieving this goal.
(Section VII, pages 76 - 97.)

* CERTIFICATE AND SAMPLES PROGRAMS.

The State of Iowa could provide two other services to complement and support both the recommended marketing strategy and the export marketing support program.

The first, is an Iowa certificate program that would confirm measurements of the economic value characteristics of grain.

The second, is a program to distribute samples of Iowa grains to prospective customers so that they can examine the grains and perform tests of economic value characteristics.
(Section VIII, pages 119 and 128.)

* SUBJECTS FOR ADDITIONAL STUDY.

The State of Iowa should fund additional studies in several areas including:

- The merits of a port authority on the Mississippi and Missouri Rivers.

- The adequacy of Iowa's grain warehousing as determined by location, ability to segregate grain according to quality factors, and accessibility.

- The adequacy of Iowa's grain transportation systems to provide small shippers competitive rates.

(Section VIII, page 136.)

* PROVISION FOR REVIEW OF PROGRESS.

A short study should be conducted in approximately one year to review and report on progress made in solving the problems noted in this report.

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Transportation Subcommittee Final Report
Quality Grain Task Force

1. The basic transportation infrastructure needed for quality grain shipments already exists. Transportation paths exist which can prevent grain of good quality from becoming blended with grain of poor quality, and prevent deterioration from too many handlings. The basic problem is cost, and in some cases logistics.

2. Many potential methods exist to preserve grain quality. Examples (in order of minimum number of off-farm handlings. See attached flow chart):

   a. Containers (for specialized shipments). (3 off-farm handlings: farm truck to elevator; elevator to container; container to buyer.)

   b. Rail cars direct to land-connected buyers. (e.g. Mexico) (3 off-farm handlings: farm truck to elevator; elevator to rail car; rail car to buyer.)

   c. From farm direct to river terminal elevator to barge to mid-stream loading of ocean vessels. (4 off-farm handlings: farm truck to river terminal elevator; elevator to barge; through mid-stream loader to ocean vessel; ocean vessel to buyer.)

   d. Rail cars direct to port elevator, to ocean vessel, to foreign buyer. (5 off-farm loadings: farm truck to rail elevator; elevator to rail car; rail car to port elevator; port elevator to ocean vessel; ocean vessel to buyer.)

   e. Other combinations involving more handlings.

3. Different end users need different qualities of grain. If we are to accommodate end user needs, segregation of grain by quality characteristics at country elevators will apparently be needed. This will have transportation implications:

   a. Separate bins will be needed at elevators to accumulate grain by quality class as it comes in off the farm. Many large elevators already have sufficient numbers and sizes of bins. However, many small elevators may have to choose to construct new bins or not participate in the quality market.

   b. Many small elevators already find it difficult to accumulate unit-train size shipments of grain. It will be even more difficult for small elevators to accumulate segregated unit-train-size shipments of numerous qualities of grain when their total volume of grain is split into segregated lots.

c. Large elevators with more bins and greater volume will thus have a significant advantage over small elevators in transportation and handling costs of quality grain.

d. Even so, some large elevators may still have difficulty accumulating 75-car shipments of grain of a specialized class entirely by themselves.

e. Railroads which allow "gathering-train" accumulation of a unit train from several elevators along their line may help both small and large elevators to cooperate to accumulate unit-train size shipments of quality grain.

f. The probable need for cooperation and/or mergers or joint marketing ventures among several elevators to reach unit-train-size shipments is another argument for grain quality by specification rather than by identity preservation. When several elevators must cooperate to put together one shipment, identify preservation becomes far less practical.

4. Full-size ocean vessels appear to be the only economically feasible way to transport bulk (noncontainerized) grain to overseas buyers in most instances. There are several alternative ways to deal with the difficulty of accumulating ocean-vessel-size shipments (typical corn = 50,000 metric tons; soybeans = 30,000 metric tons):

a. Segregations within holds.

b. Filling one or more holds of a vessel with quality grain, with balance of holds filled with general grain.

c. Examples of ways to fill an entire vessel while preserving grain quality (assuming it is possible to gather 50,000 metric tons of grain all of the same quality):

(1) Ship (over several days) 582 rail cars of grain to Iowa river terminal elevator; load barges; keep in barges until all tows are filled and ready to go; midstream-load to ocean vessel.

(2) Ship (over several days) 582 rail cars of grain to Iowa river terminal elevator; unload rail cars and pay for elevator segregated (unblended) storage while waiting for barges to arrive; load barges; midstream-load to ocean vessel.

(3) Ship 582 rail cars of grain directly to port terminal elevator; pay port elevator for segregated (unblended) storage; load vessel when it arrives.

d. The problem is that almost every method to deal with filling an ocean vessel involves potential extra costs not encountered by normal grain channels; e.g.:

(1) Extra cost of segregating a vessel hold for small shipments.

(2) Potential extra transportation cost for hold-size shipments instead of vessel-size shipments.

(3) Costs of brokering and logistically coordinating a vessel-size shipment equal to approximately eight 75-car unit trains (582 rail cars).

(4) Potential extra cost for segregated (non-blended) storage at Iowa river terminals and/or at port terminals.

(5) Potential payments for rail car and/or barge or vessel demurrage (while waiting to load barges or ocean vessels).

e. The physical capacity of Iowa's river terminals to handle ocean-vessel-size shipments may also be a problem. At present only a few Iowa river terminals could store a vessel-size shipment. Such a large shipment would require almost the total storage capacity of any particular terminal, therefore requiring that the terminal be completely emptied of "general" grain first to prevent contamination of the quality grain.

5. A study of Iowa's river terminals, grain transportation system and related ocean port terminals is needed to find economical ways to accumulate partial and ocean-vessel-size shipments of grain segregated by quality specifications.

   Of particular interest, the study should address the question of whether there is a need for establishment of an Iowa "quality grain" port authority to accumulate and load vessel-size shipments economically.

6. The lack of a centralized seller or buyer can affect transportation:

   a. It is more difficult to accumulate enough grain for a large shipment.

   b. Large size shipments generally get much lower transportation rates than small shipments.

   c. It is difficult to put together the logistics and terms of a transaction without a centralized seller or buyer.

7. The availability of information on published transportation rates is <u>not</u> a problem:

   a. Published tariffs are widely available from railroads, large grain buyers, and grain exchanges.

b. The published tariff may be of little use. Confidential contract rates move a substantial amount of grain shipments.

c. A public rate quoting service could only quote the published tariffs, which are already available from other sources.

d. Most foreign purchases of grain are in very large quantities. Railroads have indicated they are willing to negotiate contract rates for large shipments of quality grain.

e. Small shippers may need information on how to negotiate contract rates on non-conventional specialized shipments (containers, separated holds, etc.).

8. CONCLUSION: Potential Role of State in Quality Grain Transportation:

a. Provide funding for a study of whether a market exists that will pay premiums to cover the additional cost of quality grain production and transportation.

b. Provide funding for a study of the economic impact on grain elevators of segregating grain by various potential quality grades, with emphasis on how many grade ranges are economically justifiable given the number of segregated bins that would be needed.

c. Provide funding for studies of low-cost methods of accumulating and shipping grain to meet end user needs.

d. Conduct seminars on the accumulation and transportation of quality grain:

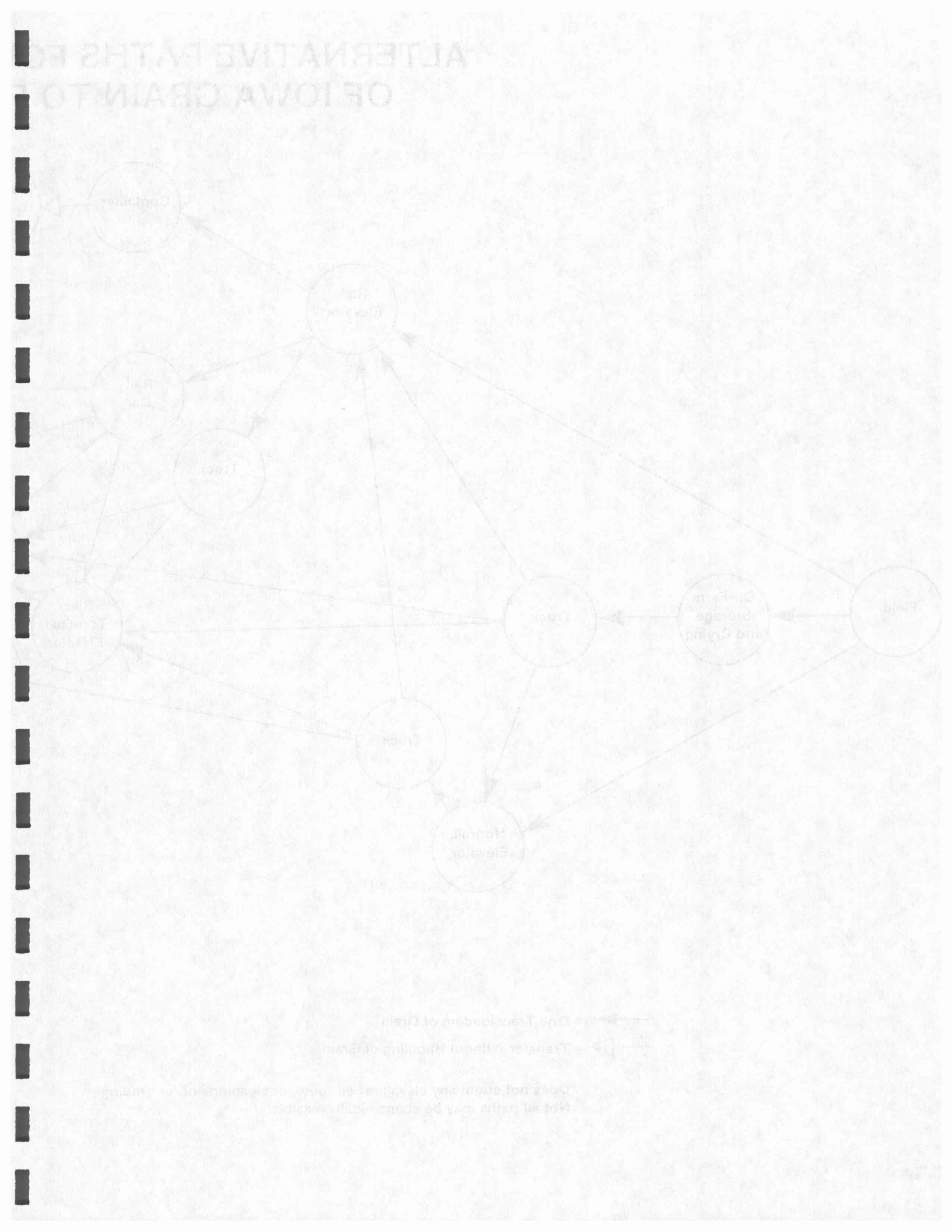
(1) Alternative methods for transportation of quality grain.

(2) How to negotiate contract rates for conventional and nonconventional grain transportation methods.

(3) How to consolidate movements.

e. Fund publication of "how to" booklets based upon seminars.

October 21, 1987



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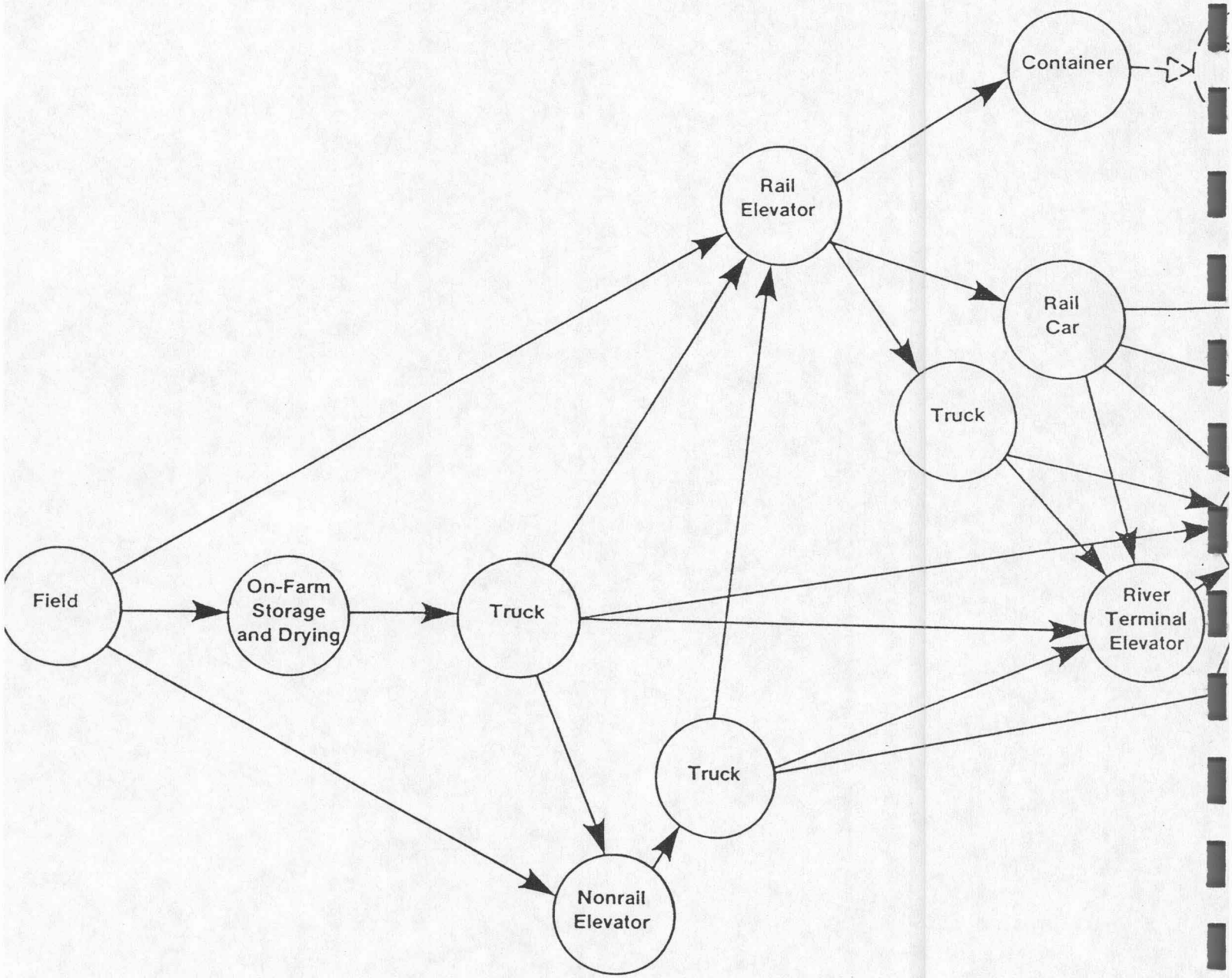
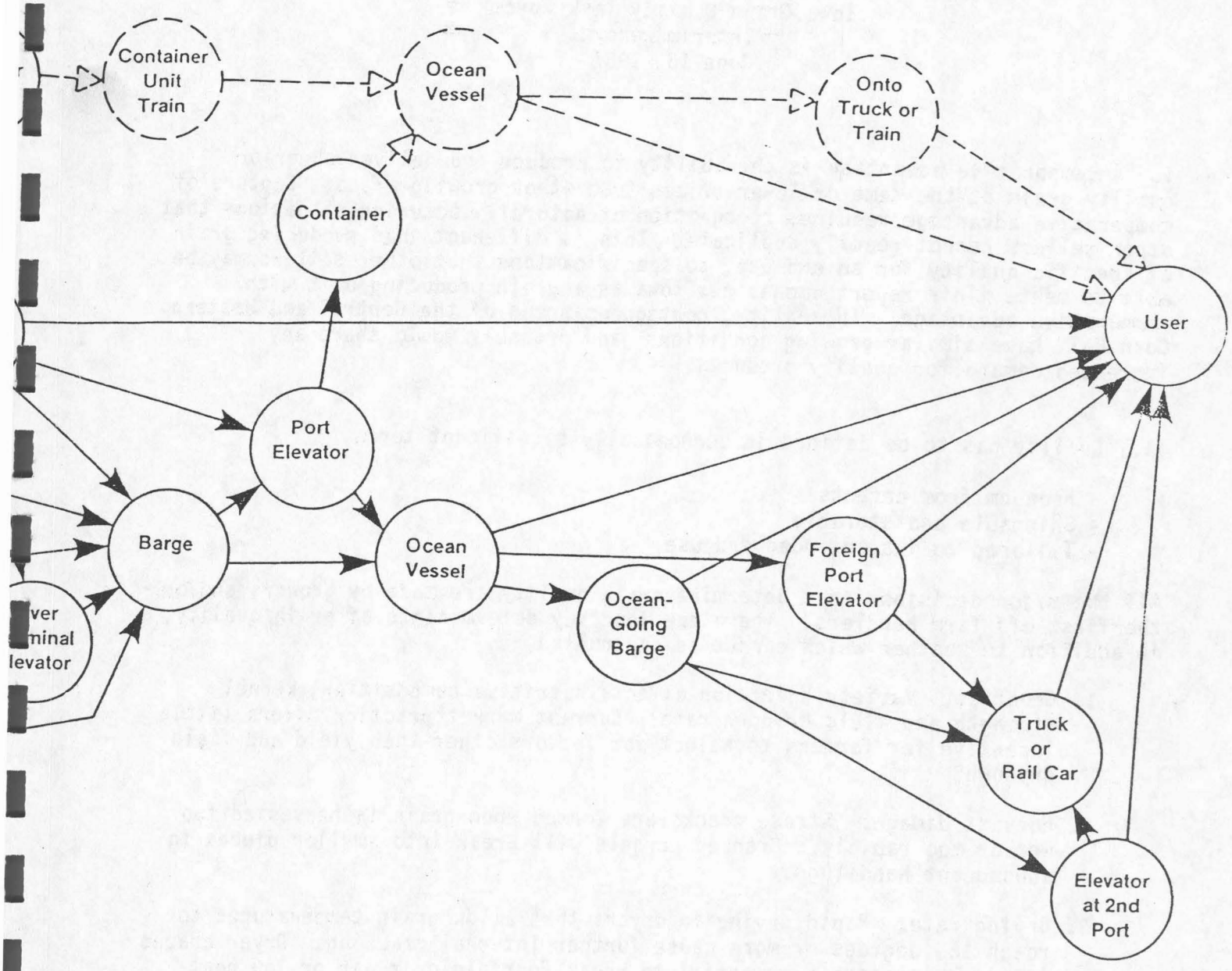


= One Transloading of Grain

= Transfer Without Handling of Grain

*Does not count any elevations en route for cleaning and/or grading. Not all paths may be economically feasible.

S FOR TRANSPORTATION TO FOREIGN USERS*



Rail and Water Division
Iowa Department of Transportation
June 5, 1987

Capturing Iowa's Comparative Advantage in Grain Quality

Grain Standards Subcommittee
Iowa Grain Quality Task Force
Interim report
June 16, 1987

I. A comparative advantage is the ability to produce and deliver superior quality grain at the same or lower prices than other growing areas. Capture of comparative advantage requires recognition of naturally occuring situations that other sellers cannot readily duplicate. This is different than producing grain of specific quality for an end-use, to specifications that other sellers may be able to meet. This report emphasizes Iowa as a grain producing unit with comparative advantage. In reality, contiguous areas of the Central and Western Corn Belt have similar growing conditions, and probably would share any increased demand for quality products.

II. Quality has to be defined in economically significant terms.

- Freedom from defects
- Shippable and storable
- Tailored to its intended end use.

All the major decisions that determine grain quality are made by growers and/or the first off-farm handlers. There are four key determinants of grain quality, in addition to weather which cannot be controlled.

1. Genetics. Variety selection affects nutritive composition, kernel strength and field drydown rate. Current market practice offers little incentive for farmers to select for factors other than yield and field drydown.

2. Harvest damage. Stress cracks are formed when grain is harvested too wet or too rapidly. Cracked kernels will break into smaller pieces in subsequent handlings.

3. Drying rate. Rapid drying in dryers that allow grain temperatures to reach 160 degrees or more cause further internal cracking. Dryer cracks can increase corn's potential to break fourfold over air or low heat drying.

4. Storage management. The majority of corn recieves its initial drying and storage on the farm, especially in recent years as growers participated in the nine-month loan program. Grain has a finite shelf-life. If most of the shelf-life is consumed through poor storage practices, grain is much more likely to deteriorate in-transit.

The grower and country elevator control all these decisions. Any effort to improve quality will fail if it does not provide incentives at the local level.

III. Major corn and soybean defect factors are:

- Foreign material
- Damage
- Toxic substances
- Insect infestation

All end-uses are affected adversely by increasing percentages of defects. The amount of the adverse effect may vary, but no user is completely neutral to higher defect levels.

-Advantages for Iowa-corn

* Lower harvest moisture content (20-22%) = fewer fines
  This is a distinct advantage for Iowa over Eastern Corn Belt.

* Hybrids matched to maturity--less frost damage

* Lower weather variability, good soil fertility

* Field drydown means higher kernel strength.

* Harvest weather suited to lower temperature drying
  Less chance of weather-damage while still in the field

* Typical corn at harvest vs. US #3 standards

Factor	Typical farm	Typical export	#3 Std
BCFM	1.0-1.5%	3.5-3.9%	4.0%
Damage	2.0-2.5%	4.0-6.0%	7.0%
Test Wt.	56-57 lb/bu	54-56 lb/bu	52.0 lb/bu
FM (8/64 in.)	0.3-0.5%	1.0-1.5%	N/A
FM (6/64 in.)	0.2-0.3%	0.7-0.8%	N/A

FM = foreign material. Number in parenthesis is the screen size used to measure FM.

With no incentive to do otherwise, these advantages are lost and Iowa's corn will be no different than any other corn. Iowa corn could have superior handling and storage properties, if growers and country elevators had a reason to make this so. Any conscious program to maintain these advantages will require livestock feeding in cash grain areas as a market for the high-defect grain that should not be blended with good corn.

- Advantages for Iowa- soybeans

* Clean fields, low weed seed levels

* Little mold damage in the field

* Killing frost stops weed growth-cleaner harvesting

* Fewer insect problems, less pesticide residue
  Especially important in a food product

* We do not use many pesticides that are still legal overseas.

* Typical Iowa soybeans at harvest vs. US #2 standards

Factor	Typical farm	Typical export	US#2
Foreign Mat.	0.5%	1.8%	2.0%
Damage	0.5%	1.0-2.0%	3.0%

- Disadvantages for Iowa: both grains

  * The distance, and barge-rail freight differentials, to the Gulf export market favor barge shipments.

  * Barge shipments require 2-4 more handlings.

  * Iowa grain is "older" when it hits the market because grain in higher price areas sells first. Government national target prices and loan rates magnify this situation.

  * Our major quality risk is early frost. Frost is more likely to be localized than drought.

IV. Handling and storage factors include:

- Breakage susceptibility

- Insect infestation

- Moisture and moisture variation

- Advantages for Iowa:

  * Moderate harvest moisture contents reduce stress cracking.

  * Cold winters allow effective incsect control, although many growers and handlers are not adequately aware of insect problems. Tighter infestation tolerances in the national Standards will promote interest in insect control strategies.

* Moderate harvest moisture contents and reduced temperature drying reduce kernel to kernel moisture variation.

V. End-use factors are:

- Composition

- Test weight and hardness

- Advantages for Iowa:

  * Ability to collect large quantities of specialized qualities.

  * Farmers responsive to new technologies, genetics

  * Broad genetic base adapted to our climate.

- There is little comparative data on intrinsic corn quality by growing region.

- A 1986 soybean survey showed Corn Belt soybeans to contain about two percent less protein than Southern soybeans. However, genetic tests prove that Iowa beans have the genetic diversity to eliminate this difference if there were incentives to do so.

VI. The following areas have potential to accentuate our advantages and reduce our disadvantages.

1. Promote improved national grain Standards and alternate factors.

2. Reduce the impact of government income-protection programs on quality.

3. Expand education, public information and research programs.

4. Upgrade the testing capabilities of country elevators.

1. Improve National Grain Standards and Alternate Factors

The primary purpose of the official U.S. Standards for grain is to describe and certify the quality of grain as accurately as practicable. They should define uniform and accepted descriptive terms to facilitate trade in grain, to provide information to aid in determining grain storability, to offer end users the best possible information from which to determine end-product yield and quality, and to provide the framework necessary for markets to establish grain quality improvement incentives.

One factor change that Iowa might have an advantage in and could capitalize on is the separation of broken corn and foreign material. An indepth impact study needs to be commissioned to determine the effect of separating broken corn and foreign material. If the results of this research indicate no adverse impact on any particular segment of the grain industry the broken corn and foreign material should be separated for grading purposes. A grade determining factor called broken corn with levels set to be consistent with objectives of increasing corn values could be established. For the ease of commerce, it has been further suggested that a tolerable level of foreign material be established with the balance above that point becoming a weight subtraction. The foreign material would be a grade determining (discount) factor. This concept is already applied to several small grains, with the term dockage used in place of foreign materials. Preliminary evidence indicates that the majority of Iowa corn is delivered to the first point of sale within these guidelines already so there shouldn't be a burden placed on Iowa farmers. This would allow the market to create the incentive necessary to encourage cleaning of grain by subsequent handlers when it is in their possession. Iowa corn is harvested at a lower moisture content which results in fewer fines. Iowa's lower weather variability and good soil fertility produces a more uniform product.

This same scenario could probably be applied to the reduction of foreign material levels of soybean grade factors. Iowa has clean soybean fields with low weed seed levels and a killing frost that stops weed growth and allows for cleaner harvesting and the delivery of a product with lower foreign material levels.

These advantages for Iowa would also carry over to other grade factor changes, such as insect levels and damage, that are currently being investigated.

In addition there are several regulatory issues, which aid in making the Standards more accurate, that are being studied such as the cu-sum loading plan, moisture level blending limits, barge loading and representative sampling procedures, and moisture meter calibration, that would place Iowa's grain at an advantage.

It is probably not the role of the State of Iowa to be actively involved in the discussion of these changes to the national Standards other than perhaps the passage of resolutions supporting those changes that would be to Iowa's benefit. The State could play a part, however, by encouraging the utilization of the screenings and foreign material within the state and making the grain sector aware of the comment period that proceeds proposed changes to the regulation of the Standards by the Administration.

If these changes come about, the Standard levels would be closer to the potentially deliverable quality which by some indications Iowa is already delivering. It would discourage deterioration in quality as it moved through the system, thus allowing the end user access to the quality of grain he desires. This would cause the sellers of low grade grain to bear the cost of that deterioration, and not benefit from a subsidy by the sellers of high quality product. The market would begin to encourage the delivery of, and perhaps offer the incentive for, high quality grain.

There has been much interest in additional information regarding end use quality factors that might be more beneficial than some of the factors already in the standards. These factors would not have to be grade determining, but could be listed on an informational basis to be used in the contracting of grain by the buyer for his particular needs. These factors would include such things as protein and oil for soybeans, protein and starch for corn, and hardness characteristics for corn along with others. However both the buyer and seller are hesitant to become involved in testing for these factors due to the uncertainty of the outcome and who should be assessed the costs. Because of this there may be a role for State become involved in the development of tests and the equipment needed, such as an instrument to determine the variation of moisture within a sample and foreign material tester research. The genetic breeding program supported by the State should be encouraged to incorporate hardness characteristics into its research.

The State could then take the lead in the demonstration of the use of these ideas in practice for the market to observe. Once the market was satisfied the tests were beneficial for both the buyer and seller and began to demand them, the state's role would be met and could step aside. When the tests became accepted the State could focus on those factors with which Iowa has an advantage and certify its high quality in them.

2. Reduce the Impact of Government Programs

Current market practice provides no direct incentive for growers to produce grain of higher quality than the minimum acceptance standards. Any higher quality grain is used to average out the lower qualities. Thus U.S. grain quality will always gravitate toward mediocrity. Since growers hold the keys to improved quality, they must have some form of overt incentives if the U.S. expects to upgrade its international standing relative to quality.

The largest purchaser of grain from farmers is the USDA, through forfeitures under the loan program. USDA policies are insensitive to quality concerns for two reasons--1) the acceptance standards for forfeited grain are generally one U.S. Grade number lower than market standards and 2) a storage period of nine months to three years is often required for growers to receive program benefits. Low acceptance standards reduce the incentive to maintain quality, leaving the problem of sorting out undesireable grain to the marketplace after the USDA has disposed of its stocks. Storage is a destructive activity. Low incentives for quality do not encourage the vigilance necessary to keep in-storage deterioration to a minimum.

The USDA should adjust its acceptance standards to conform with those normally used in the marketplace. It should also set up a premium structure to reward growers forfeiting grain of higher quality then the minimum standards. Growers would respond by altering harvesting, drying, and storage practices to prevent breakage and spoilage. Seed would be chosen not only for yield potential but also quality potential. The market in general would be forced to discriminate more accurately in favor of high quality grain and against poorer quality lots.

Tight standards and premiums will not eliminate the inherent problems associated with storage. As long as storage is a key element of farm programs, we must search for ways to mitigate its impact on quality. Placing higher quality grain into storage is one strategy USDA could adopt. Iowa farmers would benefit to a greater degree from this policy because price patterns usually dictate that Iowa grain is more likely to be forfeited, and more likely to be stored for long periods than grain from areas closer to central markets.

3. Expand education, public information, and reseach programs.

Education represents a significant opportunity for the State to become involved. Among publicly-funded agencies, those most able to participate in grain quality educational efforts are State funded--Extension Service, Iowa Department of Agriculture, Universities. Educational efforts need to be targeted at several audiences--End-users, handlers, growers and agrisuppliers(plant breeders, equipment manufacturers, etc.) While all four have a role in determining grain quality, each has a unique position in the agricultural economy. Successful educational efforts will recognize the need to tailor the message to fit individual interests and market demands.

End-users need to be aware that quality other than "normal" U.S. #3 corn or #2 soybeans can be purchased. More importantly, buyers need to be convinced that market mechanisms exist that would put higher quality products in their hands. In some ways, this means promoting alternative buying and shipping arrangements to the conventional routings through multinational grain traders. The issue of buyer demand and buyer confidence is crucial to the success of any strategy to improve quality. Representatives of the State could play an important role in developing the needed connections and buyer relationships. A standard contract format emphasising quality options would be a valuable promotional tool. Presumably Iowa grain would be more likely to meet the terms of quality-specific contracts, and thus would increase in value relative to other origins. It is questionable whether Iowa grain per se will ever have a market identity just because it came from Iowa. The more likely scenario is that Iowa grain would be preferentially bought because contract terms dictated that the grain to fill them would be more often found in Iowa.

Considerable information is available on how to grow and maintain high quality grain. This information needs to be assembled and distributed to growers and handlers in ways that would convince them quality is good business. Grain quality control operations, such as cleaning, are oftens regarded as additional costs when in fact they may be sources of profit even in the absence of direct market premiums for the upgraded products. The Extension Service, the Department of Agriculture and trade organizations have an opportunity to develop a unified message conveying the benefits of grain quality. In this same vein, plant breeders need to be convinced that growers see a value in quality traits. Genetics can and will change in whatever direction the buyers of seed demand they should change.

Reasearch is important to provide market information and testing capabilities. With growers and handlers sometimes having conflicting interests in quality, on a nationwide basis, the State of Iowa should assess its needs to support its marketing strategy, and pursue those needs with its own research capabilities. Some examples might be the development of meters to measure moisture variation, nutrient content and kernel strength. Application of existing technologies falls in the same category of need as new equipment. Market strategies should be supported by accurate information about the quality of grain from other growing regions, from international competitors, etc. We cannot rely on national programs to supply this information for us, for obvious reasons. We must accept the responsibility to take charge of our own planning.

4. Upgrade the testing capabilities of the country elevator.

A basic presumption of all the efforts to improve grain quality is that economically motivated buyers will want to specify grain that will give them their highest possible economic return from end products. This desire will only be realized if buyers can be assured of accurate information and be confident that the qualities they desire will be preserved in sufficient quantity from the first point of sale forward. Factors which we feel will be relevant are:

1. Average moisture
2. Moisture range (individual kernel moisture)
3. Protein content
4. Oil content
5. Starch content (corn)
6. Breakage potential
7. Broken corn versus foreign material
8. Possibly free fatty acids, mycotoxins, or other end-product quality factors

It will be necessary to test additional factors quickly, economically and readily. For consistency and prevention of duplicitous government agencies, the logical focal point would be the Federal Grain Inspection Service and their liscensed agencies. However, since these additional tests represent a marketing concept originated in a state, it appears that initally the State Laboratory or a designated private laboratory will have to be involved.

Additional or expanded testing at the country elevator has important operational implications. Ideally, we need technology should provide whole-grain testing equipment that yields rapid data with little customer waiting, typically in less than one minute. There are methods of incorporating additional time lags into the grain receiving system, but customers would have to be convinced that the additional time was spent in a good cause, namely increasing their net reveune from grain sales. The largest bottleneck will probably occur at grain receiving pits if inbound deliveries must be segregated by quality. Not all elevators, in fact relatively few elevators, would work well for segragation. The basic design of workhouses at country elevators in the corn was established to move large volumes of a uniform grade commodity, with the capability to blend lesser amounts of lower grade grain to meet a standard specification. Additionally, the costs of owning and operating in-house testing equipment will be an important economic factor in determining whether such testing will be accepted.

Initially, the objective must be to identify and assure a superior product at a competitive price. Consequently, there may not be an immediate opportunity for the elevator to pay the farmer for a "Premium Quality" product. Smooth farmer-elevator relations will require an understanding that increased emphasis on quality is not just another excuse to discount, but rather is a market development tool for the future. Growers and elevator operators alike would soon tire of quality if every load became a source of controversy. At that point, the old averaging system would begin to look good again. Elevators will neither discount nor reward factors not part of the Official system without established assurance that the end user will recognize, and reward, their value. Until a region--a state, a part of a state, an individual company--develops the

reputation for providing a consistently higher valued product, and until the market perceives and seeks this higher value, there will be no market-driven incentive to provide end-use value assured grain.

Who is willing to finance the development of the tesing and infrastructure to provide end-use value assrued products? Who will take the risk? The State may have an important role in testing methods development, because at the moment instrument companies see little potential for profit for them to do the needed R & D. The State can also be an important player in creating the demand for quality. It may even have to support, financially, some initial efforts to demonstrate that the concept will work. Once past the demonstration stage, it is unlikely that the Federal system will move rapidly to incorporate new ideas and methods. Therefore, the State may be in the position of providing central laboratory and accuracy control support to local elevators. All these possibilities will require careful planning, to assure that the role of government is support, not intervention.

This report is a collective effort of the Grades and Standards Subcommittee:

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Ron Swanson
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Note: The credit section will be more complete in the final draft.

GRAIN QUALITY TASK FORCE

FINANCE COMMITTEE

INTERIM REPORT JUNE 25, 1987

The committee submits the following areas for review of the task force. These have surfaced as potential areas of activity for the State of Iowa and are recommended for indepth study.

1. Educate businesses on the two grain export activities. (High quality nitch markets and overall quality improvement).
2. Serve as a clearing house for information about businesses and business.
3. Provide feasibility study assistance.
4. Offer tax credits at critical merchandising steps.
5. Assist with paper work, especially GSM financing.
6. Offer in interest rate buy down on certain financing.
7. Iowa should not offer loan guarantees.
8. A financing institution locator service.
9. An export finance pool allowing a number of banks to participate.
10. Evaluation of trading companies as to their ability to take title of grain and perform effective international merchandising. A program to stimulate more businesses is a proper activity.
11. A program to encourage foreign companies to take title to grain here in Iowa and handle identity preservation to the point of use.

A Summary of Grain Export Contracts

by

C.J. Huffman

OBJECTIVES

1) Provide a composite outline of a typical grain export contract

2) Describe the evolution toward increased specifications by foreign end users as compared to the standard export contracts preferred by the major exporting companies.

CONTRACTS ANALYZED

Two "generic" contracts describe the general structure of a contract:

NAEGA #2 1985 standard FOB contract. FOB stands for Free on Board. The buyer takes possession of the goods at the end of the loading spout. Shipping is arranged and paid for by the buyer.

FOSFA #24 1985 standard CIF contract. CIF stands for cargo, insurance and freight. The buyer takes possession of the goods on delivery. Shipping is arranged and paid for by the seller.

The North American Export Grain Association (NAEGA) contract is written by sellers, export traders based in North America. The Federation of Oil Seeds and Fats Association International (FOSFA) contract was written by buyers, European soybean processors. Three complete buyer-generated contracts were available:

USSR 1985 and 1986 FOB for corn. The Soviets always provide their own shipping, either on Russian vessels or chartered vessels.

Republic of China (Taiwan) 1986 FOB or CIF for soybeans. Taiwan will buy either way, presumably depending on which party can provide the cheapest freight.

In addition there were written notices of changes in standing contracts from Japan (November, 1986) for soybeans and Mexico (May, 1987) for corn. A glossary of terms is provided in Appendix A.

COMPOSITE OUTLINE

Any contract must deal with obvious items such as name of buyer, bid procedures, grain and grade, amount of grain, price, payment terms, and shipping terms. The NAEGA and FOSFA contracts (for FOB and CIF respectively) address these major items in simple straightforward terms. Contracts originated by specific buyers, however, are weighty volumes in which much less is left open. The contents of these documents are influenced by politics as much as the need to obtain goods. One senses skepticism, on the part of our international customers, of U.S. grain grading procedures and some distrust of its merchandising system. Buyer-generated contracts naturally reflect a desire to protect the buyer's interests.

Self-interest is a two-way street. The NAEGA contract offers little room to accommodate a customer's specific requirements for the product being purchased. Given the ever-changing nature of biological products, a surprisingly small proportion of a contract, whether standard or buyer-originated, deals with quality per se.

Standard contracts reflect merchandising practices, preferring to specify quality by Official Grade number and a moisture value. This approach allows for easy trading--paper trading. Buyer-originated contracts are more specific about quality, because a specific purchaser is much less concerned about the liquidity of the cargo on the open market and much more concerned about its value on arrival.

Major components of the NAEGA FOB contract are:

Seller
Purchaser
Quantity
Commodity
Quality
Delivery period
Price
Payment terms
Shipping documents required
Notice of delivery
Insurance requirements
Communication timetable - when various notices and documents must be filed
Circles - a trading tool for the convenience of sellers
U.S./Canadian Government rules and regulations to apply
Failure to take delivery provisions - what happens if the buyer refuses to unload the cargo, or pay after loading
Carrying charges
Allowed causes of delay in delivery - events allowed to delay arrival without penalty
Prohibitions - prohibited practices, loading ports, vessels, etc.
Default provisions - what happens if the seller doesn't fill the contract
Insolvency provisions - what happens if either buyer or seller goes bankrupt
Passage of title of goods - when the goods actually belong to the buyer
Other conditions
Arbitration

The above items are covered in the four-page NAEGA contract. The contract from USSR is FOB also; it is 12 pages plus four pages of addenda (see Appendix B) listing quarantine objects.

FOB is relatively simple in that the buyer takes delivery at the end of the loading spout and with it assumes all risks associated with shipping the goods. However, buyer-originated FOB contracts still hold seller responsible for quality characteristics beyond the loading spout, for example the Soviet provision to reject shipments that arrive containing certain live insects or quarantine items.

The FOSFA CIF contract contains the above items as well as several other categories which address shipping risks and responsibilities. Additional items found in a Standard CIF contract:

Extension of shipment - provisions to extend delivery time
War risks insurance - insurance against battle damage
Declaration of shipment - statement that cargo is on the way
Declaration of destination - statement of intended port
Ship classification
Charter party - consortium of shipowners
Duties, taxes, etc.
Notices - see glossary
Discharge rates

Contracts written by buyers specify in greater detail certain aspects of the generic contracts. Specific contracts provide the buyer advantages not present in generic, supplier-developed contracts or defend against perils and costs otherwise borne by buyers.

Following is a comparison of several specific contracts. The contracts are subdivided into five general categories of terms, quantity (summarized in Table 1), quality (Table 2), price adjustments (Table 3), financial terms (Table 4) and logistical specifications (Table 5). In these tables four statements are

used to describe items that are missing or not fully specified in particular contracts:

> Not applicable - Item has no relevance to the contract. No reason it should appear.
>
> Not specified - Item could have been specified, but was not. Not specified generally applies to buyer-generated contracts where the specifications could be written any way the buyer desires.
>
> Not addressed - No provision made for automatic or voluntary specification of item. Not addressed is used mainly to list items for which there is not even a blank on the generic contracts.
>
> As specified - Used for items on the generic contracts for which there is a clear option (blank, choice, etc.) for a specification.

Obviously, some judgment had to be used in classifying items, especially on the NAEGA contract which has a three-line catch-all blank entitled "Other Conditions".

QUANTITY TERMS

Table 1

Quantity would seem to be a fairly straightforward item on a contract, but this is not so. First, there is the definition of weight. A ton is not a tonne is not a ton. The NAEGA contract and some buyer-originated contracts specify a long ton, effectively eliminating rounding errors caused by the conversion of bushels to metric tonnes. NAEGA specifies that dockage weight (small grains) will count toward contracted quantity, thereby causing customers to adjust their tender offers in anticipation of some percentage of dockage. While dockage may be deductible for price settlement purposes, the NAEGA approach relieves the

export elevator of estimating dockage percentages when collecting grain to fill a contract. Interestingly, the Taiwan wheat contract (not included in the tables) specifies that dockage weight will not count toward the contracted quantity.

Table 1. Quantity specifications in several grain export contracts.

	Complete contracts available					Partial Contracts Available	
Specification	North American Export Grain Assoc. Form No. 2 All grains; FOB	FOSFA Form No. 24 Soybeans; CIF, C&F	Taiwan Soybean Importers Joint Committee Soybeans; FOB, CIF	USSR, 1985 Exporthleb Corn; FOB	USSR ,1986 Exporthleb Corn; FOB	Mexico Conasupo Corn; FOB, CIF	Japan Japan Oil & Fat Importers & Exporters Soybeans; CIF
Def'n of wt. units	2,240 lb = 1,016 kg dockage included	not specified	not specified	MT = 1000 kg	MT = 1000 kg	*	2240 lb = 1016 kg
Tolerance	5% more or less	5% M/L	5% M/L	5% M/L	5% M/L	*	5% M/L
Option	buyer	seller	shipowner	buyer	buyer	*	seller
Certification	origin	origin	origin	destination, sublot sweepings added	destination, sublot inc. sweepings, pay for short or long	Origin, by sublot or rail car	origin

* Complete information not available.
N/A Not applicable

A tolerance of 5% more or less (M/L) is common to all of the contracts analyzed. The question is who has the option. There is no connection between who originates the contract and who gets the option, at least among the contracts analyzed in this study. However the option is more likely buyer's in FOB contracts and more likely seller's in CIF contracts. The significance of the M/L option lies in how buyers and sellers exercise it. For example, if prices appear to be rising, a buyer, given the option, would like 5% more. Conversely, falling prices would encourage buyers to request less. A 5% M/L tolerance represents about 200,000 bushels in a typical 50,000 MT vessel. A shipowner presumably exercises the option based on filling the vessel and vessel capacity.

Final weights are certified at origin for all contracts studied except the USSR. The USSR specifies destination weights. This strategy ostensibly makes the seller absorb shrinkage losses resulting from the transfers of grain from the large vessel to the lighters (smaller vessels) destined for specific Soviet ports. This procedure adds a minimum of two additional handlings, creating additional handling shrink for which the Soviets seek not to pay. We can assume that the exporters, being familiar with this practice, sufficiently increase the price to cover shrink loss and destination weight uncertainty. Destination weight increases seller's risk because the actual weight is not known for 30 days or more after loading, and is not taken under the supervision of seller representatives.

QUALITY TERMS

Table 2

Whether generic or buyer-originated, each contract specifies a U.S. grade even if there are additional and superceding requirements. Without a grade number, every factor covered in the Standards would have to be specified individually, even those of lesser concern, to prevent sellers from having a free hand in selecting quality to load. The advantage of numeric grades in specifying values for many factors of general interest should not be abandoned as the U.S. moves to add more specialized information to its grain inspection system.

Table 2. Quality specifications in several grain export contracts.

	Complete contracts available					Partial Contracts Available	
Specification	North American Export Grain Assoc. Form No. 2 All grains; FOB	FOSFA Form No. 24 Soybeans; CIF, C&F	Taiwan Soybean Importers Joint Committee Soybeans; FOB, CIF	USSR, 1985 Exportkhleb Corn; FOB	USSR ,1986 Exportkhleb Corn; FOB	Mexico Conasupo Corn; FOB, CIF	Japan Japan Oil & Fat Importers & Exporters Soybeans; CIF
US Grade	as specified	US2YSB or better	US2YSB or better	US3YC or better	US3YC or better	*	as specified
Test Weight	as specified	grade limit	grade limit	grade limit	grade limit	*	grade limit
BCFM	as specified	N/A	N/A	grade limit	grade limit	*	N/A
Foreign Mat'l	as specified	grade limit	1.5% max. by sublot	N/A	N/A	N/A	grade limit
Damage	as specified	grade limit	grade limit	grade limit	grade limit	*	grade limit
Infestation	as specified	grade limit	not specified	no live insects	no live insects	*	grade limit
Fumigation	not addressed	not addressed	not specified	allowed, suitable animal feed, no EDB 8 ppm max. residue	same, malathion on Soviet ships, phosphine non-Soviet, 8 ppm max. residue	*	*
Moisture	as specified	14% maximum	13.5% max by sublot	15% max. by sublot	15% max. by sublot	*	13.5% max.
EDB residue	as specified	not addressed	900 ppb max.	95 ppb max.	95 ppb max.	*	not specified
Protein	as specified	not addressed	35% minimum	not specified	not specified	*	not specified
Oil	as specified	not addressed	19% minimum	not specified	not specified	*	not specified
Other	as specified	none listed	none listed	phytosanitary cert. quarantine list	phytosanitary cert. quarantine list	phytosanitary certificate	*
Determined by:	FGIS; St. Lawrence Port officials, appeal-either party	FGIS	FGIS-loading independent lab-settlement	FGIS in company of indep. surveyor USSR-infestation, quarantine items	FGIS in company of indep. surveyor USSR-infestation, quarantine items	FGIS, by sublot or railcar	FGIS
Final at:	origin	origin	origin	origin ex. weight, quarantine items, infestation	origin ex. weight, quarantine items, infestation	origin	origin

* Complete information not available.
N/A Not applicable

"Grade limit" (eg. test weight in Table 2) means that the vessel average, certified by the cu-sum plan, cannot exceed the grade limit. Grain will not be permitted to leave a U.S. port unless it meets the grade requirements set down in the contract. As long as the buyer accepts FGIS grades, discount schedules are unnecessary. However, if settlement is made on other than FGIS grades (eg. Taiwan) then there must be a discount procedure because the independent laboratory may find a lower quality than the FGIS certificate used to load the vessel. Independent labs

cannot be used "on-line" for loading because, by law, FGIS must be the final judge of what can or cannot be loaded.

"By-sublot" provisions (eg. FM - Taiwan) override the cu-sum inspection plan. With sublot grading, exporters must load a better quality product than would be loaded under cu-sum, to assure that no sublot will exceed the limit. Factors that affect storability (FM, moisture) are the factors most often determined by sublot. Taiwan couples its by-sublot requirement with a half-point reduction in moisture from 14.0% to 13.5% and reduces FM by 0.5% from 2.0% to 1.5%. Although Taiwan specifies #2YSB, the tighter moisture and FM tolerances supercede most restrictions of the No. 2 Grade, because these are the factors usually close to the limits in export shipments.

The NAEGA contract form has a blank area to specify quality terms--a very little blank area--giving the distinct impression that a U.S. grade is all that is really intended. The reason for this is found further in the contract where circles are defined and discussed. A circle is a "series of contracts in which each seller is also a buyer of a commodity of the same description and QUALITY (emphasis added) ..." A circle is a merchandising tool meant for the convenience and profit of merchandisers. If quality specifications become too detailed and/or too numerous, circles become unworkable. The more that quality specifications are used, the less liquid and interchangeable the product becomes. Traders depend on interchangeability; less interchangeability means less need for "trading" and more direct

buyer-seller communication. The real sellers (producers) and the real buyers (end-users) must agree on optimum quality, then see to it that quality is maintained even while expediting transfer from seller to buyer. Consequently, buyers are writing their own contracts with very specific requirements and monetary discounts to cover cases where the requirements are not met.

Taiwan includes minimum values for soybean protein and oil content -- factors not currently measured by FGIS. To obtain protein and oil contents of the grain after loading, Taiwan employs an independent U.S. laboratory. Taiwan also employs an independent lab to measure wheat protein, a factor that is tested by FGIS. FGIS inspectors must draw the sample and present it to a representative of the laboratory. The laboratory measures official factors as well as protein and oil.

The Taiwanese contract is explicit in stating that the FGIS certificate is solely for the purpose of negotiating letters of credit. Adjustments in price due to quality deficiencies are based on results from the independent lab.

In November, 1986, the Japanese gave notice of a change in their soybean contract. They would accept a maximum of 2.0% FM, but would discount beginning at 1.0%. Also moisture was reduced by a half-point to 13.5%.

The USSR is equally concerned about corn quality, although on different factors. Although the corn is intended for livestock feed, they have specific requirements that, to them, are

important. The USSR strives to prevent importation of quarantine objects: weed seed, insects, fungi, bacteria. Their contracts have become increasingly stringent on the matter of live insects and, although not reflected in the available contracts, the USSR now requires fumigation during shipment and will not unload vessels with live insects. The USSR also employs an independent inspector to monitor FGIS at loading. It is not clear whose results are final for financial settlement. Soviet inspectors' results are final at destination for infestation and quarantine items.

A phytosanitary certificate (see USSR, Mexico) is a certificate issued by the Animal Plant Health Inspection Service (APHIS) that states the grain is free from biological pests at the time of loading.

PRICE ADJUSTMENTS

Table 3

Price adjustments can be applied to any item in the contract, but most often they apply to quality-related items. The spectrum of quality discounts is wide. At one extreme is the NAEGA contract. There is no evidence that discounts are considered a possibility. Indeed, NAEGA contracts give a disclaimer of sorts: "The commodity is not warranted free from defect, rendering same unmerchantable, which would not be apparent on reasonable examination." FOSFA has a similar statement, but does provide for the option of enacting a warranty (is/is not). There is no

way of knowing how often a warranty is invoked. The disclaimer of quality assurance, more than any other single item, emphasizes the trading philosophy of grain merchandisers. Put in an individual consumer's position of trying to obtain quality goods from a distant supplier for a specific purpose, one could imagine the frustration that could build over time.

Table 3. Price adjustments in several grain export contracts.

	Complete contracts available					Partial Contracts Available	
Specification	North American Export Grain Assoc. Form No. 2 All grains; FOB	FOSFA Form No. 24 Soybeans; CIF, C&F	Taiwan Soybean Importers Joint Committee Soybeans; FOB, CIF	USSR, 1985 Exportkhleb Corn; FOB	USSR ,1986 Exportkhleb Corn; FOB	Mexico Conasupo Corn; FOB, CIF	Japan . Japan Oil & Fat Importers & Exporters Soybeans; CIF
Test weight	No discounts are specified. "The commodity is not warranted free from defect, rendering same unmerchantable which would not be apparent on reasonable examination."	No discounts are specified. Warranty statement is an option.	1.85%/lb < 54 lb/bu	not specified	not specified	*	none specified
BCFM			N/A	not specified	not specified	*	N/A
FM			5%/pt. 1.5-2.0% over 2.0% cannot be loaded	not specified	not specified	N/A	1%/pt. up to 1.5% 2%/pt. 1.5-2.0%
HDK,DKT			not specified	not specified	not specified	*	not specified
Infestation			not specified	$0.75/MT	$0.75/MT	*	not specified
Moisture			10%/pt. over 13.5%	not specified	not specified	*	not specified
Protein			2.1%/pt. < 35.0%	not specified	not specified	*	not specified
Oil			1.3%/pt. < 19.0%	not specified	not specified	*	not specified
Other quality			not specified	$0.75/MT glass,rust metal, etc. and/or $0.75/MT quarantine items;see Addenda	$0.75/MT glass,rust metal, etc. and/or $0.75/MT quarantine items;see Addenda	*	*
Other, non-quality	as specified	not specified	Buyer pays $0.75/MT for 2 port disch., refunded if not used $2/MT reduction if payment is w/less than 5 LC's	not specified	not specified	*	*
Arbitration	New York	London	Taiwan	USSR	USSR	*	*

* Complete information not available.
N/A Not applicable

The Taiwanese have faced the frustration by buying the way merchandisers sell. That is, they establish factors, acceptable limits of the factors and discounts if the limits are not respected. They have learned the language and are attempting to

play the game. The discounts are extremely high--indicating the relative importance of several factors. It is likely the Taiwanese prefer to have the contract terms met rather than make a downward price adjustment. It is only logical that as processors, yield and product quality are the prime concerns.

The Japanese approach for FM is different, in that the standard U.S. Grade limit of 2.0% for #2YSB is retained, but a discount rate is established beginning at 1.0%. This is intended to discourage shippers from crowding the limits. However, multiple appeals permitted under current FGIS rules will, if used, partially counteract these discounts. The cu-sum plan is irrelevant if all sublots are below contract limits so the discount procedure reduces the function of FGIS to providing analysis, rather than deciding what grain can and cannot be loaded.

The USSR, buying livestock feed, has three categories of quality that they "grade" at destination, presumably on an all-or-nothing, is/isn't basis:

infestation
admixture items (glass, metal, etc.)
quarantine items (see addenda 1-4)

Each category carries a $0.75/MT discount, if found by Soviet inspectors.

All contracts, whether generic or buyer-originated, specify that any dispute arising as a result of the fulfillment of the contract is to be arbitrated in the country where the contract originated.

FINANCIAL TERMS

Table 4

Many terms depend on whether the contract is FOB or CIF. For example, there is no need for freight terms in FOB contracts. The abundance of terms and their detail is more critical than any individual example. An exporter has to be prepared to meet any of them, which is one reason why exporting tends to concentrate with a few firms, each with the resources to cope with specific terms. It may be difficult for a small firm or an individual to cope with these complexities. On the other hand, a government entity would be encumbered with regulations and personnel to the point of not being able to act quickly in response to the market. In a democratic country, where accountability is a mainstay, a state, area, or federal trading company would be at a competitive disadvantage. Because expenses of grain exporting are large relative to potential profit, the risks are high and the margin for error low.

While the NAEGA contract has the flexibility to cover any terms, the "other conditions" space is relatively small, reflecting the view that users of this contract will not have many special conditions. This is probably true if the contract

is between two trading firms. The FOSFA document provides fewer blanks and optional spaces but it is a buyer-originated contract for a specific commodity. The absence of carrying charges, banking charges and its cash payment requirements suggest that it is used most by Europeans with free access to U.S. banks and few credit needs.

The difference in specificity between generic contracts and individual buyer contracts illustrates the point that anyone proposing to contract-market grain must know the conditions in the buying country and must be prepared to use whatever financial instruments may be necessary. This knowledge does not come exclusively from books or even from studying samples of contracts. New entrants into export marketing must compete with an unwritten history that spans many decades and that is not necessarily based on rationale similar to ours.

Carrying charges are assessed in the event that a seller cannot deliver the grain within the specified time period. They are quite high in some cases. The approximate equivalent annual percentage rate for Taiwan, USSR and Mexico are about 40%, 12% and 95% respectively. Taiwan and Mexico are high because they assess a fixed dollar penalty per MT per day in addition to bank rates of interest. Obviously they do not expect sellers to be late.

Insurance covers risk of loss of the goods in transit. If the buyer is responsible for insurance, the seller requires documentation that it has been obtained before loading begins.

Table 4. Financial terms in several grain export contracts

	Complete contracts available					Partial Contracts Available	
Specification	North American Export Grain Assoc. Form No. 2 All grains; FOB	FOSFA Form No. 24 Soybeans; CIF, C&F	Taiwan Soybean Importers Joint Committee Soybeans; FOB, CIF	USSR, 1985 Exportkhleb Corn; FOB	USSR ,1986 Exportkhleb Corn; FOB	Mexico Conasupo Corn; FOB, CIF	Japan Japan Oil & Fat Importers & Exporters Soybeans; CIF
Carrying chrg.	as specified	not addressed	$0.07/MT/day + int.	0.03% per day	0.03% per day	$0.15/MT/day + interest	not specified
Insurance	buyer	seller	buyer or seller	buyer	buyer	buyer or seller	buyer
Performance bond	not addressed	not addressed	seller, 5% of contract value	not required	not required	seller, $70,000	*
Taxes, Fees	not addressed	in seller's country seller; in buyer's country, buyer	seller	in seller's country seller; in buyer's country, buyer	in seller's country seller; in buyer's country, buyer	*	*
Banking chrg.	buyer	by party requesting bank services	seller if outside Taiwan	seller (US fees) buyer (USSR fees)	seller (US fees) buyer (USSR fees)	*	*
Overtime	not addressed	not addressed	To party ordering; ship officers and crew to shipowner. Discharge OT to buyer if ordered by port.	To party ordering; ship officers and crew to shipowner.	To party ordering; ship officers and crew to shipowner.	*	*
Payment method	cash, LC, other as specified	cash	Letter of credit	cash-Moscow bank claims settled later	cash-Moscow bank claims settled later	*	*
Demurrage	not addressed	per shipowner	$3,000-$7,000/day	per Charter Party	per Charter Party	*	as specified
Despatch	not addressed	not addressed	$2,500-$3,500/day	half of demurrage	half of demurrage	*	half of demurrage
Other seller costs	Time loss if vessel not loaded in order	Costs for late arrival of document	Fines due to violation of ship specs. Add'l insurance by reason of vessel's flag, class or ownership. Shifting expenses.	Export/import license Trimming @$0.50/MT if two port loading	Export/import license Trimming @$0.50/MT if two port loading	Costs for late arrival of documents	*
Other buyer costs	as specified	not addressed	Shifting expenses for 3+ berths (CIF only)	none listed	none listed	*	Trimming between discharge ports
Circles	Defined, supported as trading device	Defined same as in NAEGA contract.	not addressed	not addressed	not addressed	*	*
Other	as specified	not addressed	"Other terms per NAEGA No. 2 or FOSFA No. 24"	Seller will market Soviet machines, equipment, other goods.	Seller will market 2% contract value in Soviet machines, equipment, other goods.	*	*

* Complete information not available.

A performance bond is a sort of insurance of "timeliness of delivery" and a lever to assure that terms are met. The Taiwanese require a bond equal to 5% of the contract value which is forfeited if the contract is defaulted upon as well as in other certain situations.

U.S. taxes, fees and banking charges are customarily paid by seller while buyers pay similar expenses in their respective countries. Cash contracts avoid banking fees, but not all buyers are prepared to pay cash or have direct financial access to U.S. markets.

Overtime during loading or discharging grain is paid by the party who orders it. Shipowners pay for officers and crew.

Loading demurrage (fees for delayed loading) is an important specification in FOB contracts because the buyer pays the shipowner's bill. The shipowner will bill the buyer for lost time due to loading delays; a demurrage specification assures that loading demurrage costs will be passed back to the seller. Unloading demurrage is important in CIF contracts because sellers do not wish to pay for delays over which they had no control.

Despatch (a bonus for loading or discharging vessel before laytime expires) could inadvertently play a role in quality measurement and grain breakage. New U.S. elevators can easily exceed minimum loading rates to qualify for despatch payments. A loading capability of 50,000 MT per day would net two to three days despatch -- about $10,000 or about $0.05 per bushel.

Without appropriate equipment, speed means increased breakage. There is no premium for quality control beyond the final inspection while there is a premium for loading speed. This premium for speed also pressures inspectors in that they are very unpopular if they slow down loading. Anyone familiar with laboratory analysis knows that there is a delicate balance between speed and accuracy.

Buyer-originated contracts do not provide for circles. From a buyer's viewpoint, circles are irrelevant. A contract is written with some selling firm; that firm must provide the goods. Whether those goods had passed through several other hands is irrelevant. The author of the contract expects the signatory of the contract to fill it and be responsible for the buyer's satisfaction.

The USSR provision for selling Soviet goods (Table 4, other) is interesting. There is no way of knowing how this clause is executed or what goods are sold. By the 2% figure in the 1986 contract, the seller would have to sell about $60,000 worth of Soviet goods for every shipload of corn. Specifying 2% may suggest a dissatisfaction on the Soviets' part with the compliance of this provision in prior contracts or perhaps a need on the part of the seller to know exactly what is expected.

LOGISTICAL SPECIFICATIONS

Table 5

Again, the difference between FOB and CIF is evident. Buyers arrange shipment in FOB, contracts need not address these items. The rationale behind "prohibited ports" varies. The Mississippi River north of Baton Rouge, for example, is too shallow for Soviet vessels to be fully loaded. Other contracts prohibit St. Lawrence ports during specific times of the year due to the possibility of vessels getting iced in. A seemingly arbitrary prohibition is that of the port of Brownsville (both Taiwan and USSR). According to other sources, Brownsville port elevators earned a reputation years ago for slow loading and inspection problems, a reputation that apparently has not been lived down despite correction of the problems. This illustrates that grain buyers are not so different from consumers of other goods or services. Any consumer, if feeling mistreated, will take business elsewhere and will be very slow to reverse an opinion. With more competitors in grain exporting, customers have this option as never before.

Age limit on vessels could affect quality by preventing the use of rusty or leaky vessels. It also generates automatic demand for new ships. Is it a coincidence that Taiwan, Japan and Korea are the world's leading merchant ship builders?

Political factors affect grain trading in general. Sometimes politics are reflected in contract specs, such as in vessel selection and routing (see "other", Table 5). Other political

considerations are unwritten, but no less important. For example, how do individual foreign companies receiving sublots from a single vessel deal with the trading company that contracted for the grain? These are factors beyond our control but nonetheless influence purchasing decisions. A seller who provides grain less likely to cause internal disputes over subdivision will certainly be in a favored position.

Table 5. Logistical terms in several grain export contracts.

	Complete contracts available					Partial Contracts Available	
Specification	North American Export Grain Assoc. Form No. 2 All grains; FOB	FOSFA Form No. 24 Soybeans; CIF, C&F	Taiwan Soybean Importers Joint Committee Soybeans; FOB, CIF	USSR, 1985 Exporthleb Corn; FOB	USSR ,1986 Exporthleb Corn; FOB	Mexico Conasupo Corn; FOB, CIF	Japan Japan Oil & Fat Importers & Exporters Soybeans; CIF
No. load ports	one	not addressed	one	one	if >1, $0.30/MT fee	*	one
No. berths	one	not addressed	one or two	one or two	one or two	*	*
Prohibit. port	as specified	not addressed	Brownsville	Brownsville, Albany, Miss. River north of Baton Rouge	Brownsville, Albany, Miss. River north of Baton Rouge	*	*
Loading rate	not addressed	not addressed	7,000-10,000 MT/day	10,000-13,500 MT/da	10,000-13,500 MT/da	*	*
Unload ports	N/A	as specified	one or two	N/A	N/A	*	Up to three
No. berths	N/A	as specified	one or two per port	N/A	N/A	*	Up to three
Disch. rate	N/A	not addressed	1,500-4,000 MT/day	N/A	N/A	1,500 MT/day for ports listed	as specified
Ship capacity	N/A	not addressed	54,000 or 30,000 MT	150,000 MT max.	150,000 MT max.	*	*
Prohibit. type	N/A	tankers	Tanker/tween decker/ ore,oil,car carrier/ wing tank/OBO vessel/deep tanks	N/A	N/A	wing tanks or tween deckers	tankers,ore/oil carriers
Age	N/A	not addressed	15 yrs max.	N/A	N/A	if>15 yrs then add'l insurance	15 yrs. max.
Saltwtr draft	as specified	not addressed	34' for 30,000 MT 41' for 54,000 MT	not specified	not specified	*	*
Freshwtr draft	as specified	not addressed	40' for 54,000 MT	not specified	not specified	*	*
Length	N/A	not addressed	800' max.	N/A	N/A	*	*
Beam (width)	N/A	not addressed	106' max.	N/A	N/A	*	*
Discharging equipment	N/A	not addressed	5 hatches min. each w/1 crane or 2 derricks; power for winches & lighting	N/A	N/A	*	*
Average speed	N/A	not addressed	12 knots min.	N/A	N/A	*	*
Other	not addressed	Class Lloyds 100 A1 or better	no Communist port before arriving at Taiwan; no partial shipments, part cargo, or transshipments	not specified	not specified	seller committed to Mex flag vessels if available	Class Lloyds 100 A1 or better

* Complete information not available.
N/A Not applicable

COMMENTARY

The complexity of grain contracts, diminished when presented in this format, should not be overlooked or dismissed. The most skilled domestic grain trader would be cast adrift when trying to arrange shipment and/or financing of export sales. The logistics, domestic politics, international politics and financial arrangements demand a wealth of knowledge, personnel, staff time, legal experts, and resources. Add to these demands the everchanging dynamics of a biological product.

It is evident that the current system has developed with emphasis on meeting the logistical needs of grain exporting. What may have been overlooked is the fact that each faction of the grain industry is an equally indispensable part of the same objective. The system must evolve so that each faction can offer its best to the effort of marketing and utilizing grain.

How can this goal be achieved? Considering the investment required to perform the various functions in the grain chain, it would be ill-advised to consider replacing certain factions or supplementing them with more levels of bureaucracy. Clearly changes are required to make U.S. grain trading more competitive and fair. If the U.S. government were to enforce changes in the Standards, customers could have renewed faith in our desire to meet their needs. A change in Standards must be done unilaterally for the good of trade and not for the good of a single faction. It is unlikely that exporters, for example, will stop exporting simply because the Standards change to require

removal of FM. It is not improbable, however, that the U.S. could continue to loose markets to competitors if changes are not made.

If one assumes that each segment of the grain industry from producer to end user has an equally important need for fair trade, then the government must step in to establish grain Standards based on the realities of the future, incorporating advanced technology and anticipating the strict requirements of customers. Standards must reflect the reality of international competition in the grain industry.

Specific contracts are the buyer's way of changing the rules. They are both good and bad--good when very special needs can be met without impressing unnecessary conditions on the entire market, but bad when their provisions merely defend against intuitively illogical business practices. Contract specifications such as sublot grading and overriding the dockage rounding rules (wheat) are intended to get around U.S. rules and procedures. Anyone interested in expanding the list of foreign customers, let alone retaining the current ones should view the trend toward settling final price based on non-FGIS grades as alarming--a sign of an imminent free-for-all and of growing disregard for rules of fair trade.

Changing the Standards does not mean making them more involved, indeed simplicity is essential. The key is to have Standards measure traits of intrinsic value, and to set the limits for universally undesireable defect factors as low as is

operationally feasible. The logic should be that U.S. "standard grade" grain, which is to be price competitive with any other seller, should be at the highest achievable level of basic soundness--lowest FM, mold damage, insect damage, etc. Then the U.S. should use technological advantages to offer sensibly-priced options on end-user related quality characteristics. The user-needs potential of contracts, not the self-defense aspects, should be accentuated. If this logic cannot be accepted by consensus, then we shall face the alternative--a diverse array of defensive special provisions and decreased faith in the U.S. national inspection system.

APPENDIX A

GLOSSARY

arbitration	procedure binding on all parties for resolving disputes over contract terms or fulfillment.
B/L	bulk loading
back-to-back	a cash transaction wherein the merchant purchases a quantity of grain and immediately resells it. A simple, low risk transaction.
BCFM	Broken Corn-Foreign Material, an Official Grade factor for corn measuring, in %, the amount of fine (smaller than 12/64 ") material and large non-grain pieces in a sample.
bill of lading	document certifying the contents of a shipment.
C&F	cargo and freight, without insurance, paid to a given destination.
carrying charges	a fee to cover storage, insurance and interest if delivery is not made on time.
CIF	cargo, insurance and freight paid to a given destination.
Conasupo	central agricultural buying agency for Mexico. Until 1985 it handled nearly all imports, distributing them to users.
cu-sum plan	a method of combining inspection results on vessel sublots. Cu-sum accounts for the possibility of inspection error and for the loading of some sublots lower that exceed contract quality limits.
Damage	an Official Grade factor measuring, in %, the amount of mold and insect damaged kernels/grains in a sample.
delivery period	time period established by contract for the arrival of a shipment.

demurrage	fee for delay of loading or unloading ship, railcar or other carrier beyond the contractually-allowed time.
despatch	bonus for loading or unloading ship, railcar or other carrier before the contractually-allowed time.
Dockage	an Official Grade factor for wheat and other small grains, measuring, in %, the amount of very small and very light material in a sample.
draft	depth of water required to float a loaded vessel.
DWTCC	deadweight tons of cargo and fuel in a vessel.
EDB	ethylene dibromide, an insecticide now prohibited in the U.S. because of its carcinogenic potential.
ETA	estimated time of arrival
ExportKleb	agricultural trade agency of Soviet government, based in Moscow.
FGIS	Federal Grain Inspection Service, USDA grain grading agency. FGIS inspection is mandatory for all export shipments, optional for domestic trading.
FM	Foreign Material, an Official Grade factor for soybeans measuring, in %, the amount of fine (smaller than 8/64 ") material and large non-grain pieces in a sample.
FOB	free on board, sometimes FOBST-stowed & trimmed. Price of the commodity, excluding freight.
force majeure	events such as earthquates, wars, etc. that are permitted to negate some or all terms in a contract.
FOSFA	Federation of Oils Seeds and Fats Association International. London. FOSFA issues standard cash contracts. Its more than 40 contracts cover an estimated 85% of world fat and oilseed trades.

GAFTA	Grain and Feed Trade Association. London. It has devised approx. 80 grain and feed cash contracts which cover a little more than half of the world trade in grains and feed ingredients.
Infested	the Official Grade designation for grain containing over the allowable limits of live insects.
kilo	metric weight unit; 1 kilo = 2.205 lb.; also kg or kilogram.
L/C, LC	Letter of Credit. A financial instrument that guarantees payment by the specified bank upon presentation of required documents.
laytime, laydays	period of time that vessel is in port, ready to load, without being on demurrage-typically seven days.
LOA	length overall
M/L	more or less
Moisture Content	an Official factor measuring, in %, the amount of water in a sample. Moisture does not determine Official Grade but is mandatorily determined in all Official inspections.
MT	metric tonne
NAEGA	North American Export Grain Association. Washington D.C. Export trade organization that establishes trading practices and lobbys for its members.
Notice of Delivery	document stating that a cargo is approaching a specific port and is ready for discharge.
Notice of Readiness	document stating that a ship is ready to be loaded; filed by ship captain.
performance bond	sum of money deposited to ensure fulfillment of a contract.

Phytosanitary Certificate	certificate of freedom from biological pests and toxicities, provided by the Animal, Health, and Plant Inspection Service, USDA.
proforma	provided in advance
pt./point	percentage point; e.g. the difference between 15% moisture and 14% moisture is one point.
safe berth	where ship is at anchor without peril from other shipping.
shifting expenses	the cost of moving a vessel from one berth to another within a port.
ship classification	quality rating of a ship as established by a major ship registry such as Lloyds of London.
stowed	loaded for shipment
sublot	subportion of a cargo for inspection purposes, about 50,000 bushels for ocean vessels.
Test Weight	an Official Grade factor measuring, in pounds per bushel, the density of grain after being dropped into a dry-measure quart kettle.
ton/tonne	unit of weight measure: tonne (MT) = 2,204.6 lb. Short ton = 2000 lb. Long ton = 2,240 lb.
transshipment	unloading at intermediate port for further transport to other ports or inland points, to another buyer.
trimmed	vessel levelled and ready to sail
US2YSB	US Number 2 Yellow Soybeans
US3YC	US Number 3 Yellow Corn
WWDSHEX	weather allowable working days, Sundays and holidays excepted.

Some definitions obtained from "The Practical Grain Encyclopedia" published by Commodity Center Corporation

APPENDIX B

ADDENDUM No. 1

to Contract No. dated September (1985) between as the Sellers

V/O "Exportkhleb", Moscow as the Buyers.

Moscow,

The Sellers to supply official certificates issued by competent authorities regarding analysis of each shipment evidencing that the grain delivered under the above contract is free from the following quarantine weevils, diseases, weeds and seeds :

Quarantine weevils
Trogoderma granarium EV
Caulophilus latinasus Say.
Callosobruchus chinensis I.
Callosobruchus maculatus fabr.
Sitophilus zeamais Motsch
Heterodera Zea - Mays
Plants diseases
Neovossia Indica Mitra
Phymatotrichum Omnivorum Dyggar
Seeds of quarantine weeds
Ambrosia artemisiifolia L.
Ambrosia trifida L.
Ambrosia psilostachya DC
Iva axillaris Pursh.
Acroptilon picris C.A.M.
Helianthus californicus
Helianthus ciliaris DC
Helianthus petiolaris Nutt.
Helianthus scaberrimus Benth
Solanum elaeagnifolium D.C.
Solanum triflorum Nutt.
Solanum carolinense L.
Solanum rostratum dun
Cenchrus tribuloides L.
Cuscuta Sp.Sp.

and live barn insects other than those listed above and the cumulative specific beta activity when determined by method of thick layer is not to exceed 2220 bacquerels (60 nonacurie) per kilo (excluding potassium background which is to be determined according to table), Stroncium-90 not more than 44,4 Bk (1,2 nonacurie) per kilo, Caesium-137 not more than 55,5 (1,5 nonacurie per kilo (radiochemical analysis).

All other terms and conditions of the above contract and Addenda to it remain fully in force.

BUYERS : SELLERS :

ADDENDUM No. 2

to Contract No. dated September 1985 between as the Sellers and V/O "Exportkhleb", Moscow, as the Buyers.

Moscow

The Sellers to supply official certificates issued by competent authorities regarding analysis of each shipment evidencing that the content of harmful/poisonous admixtures in grain delivered under the above contract must not exceed 0.2% maximum including :

- Acroptilon Picris (Mountain Bluet)
  Coronilla Varia
  (Cronvetch Exseed) - 0.1 % maximum
- Claviceps Purpurea (Ergot)
  and Ustilago Tritici
  (Loose smut) - 0.15 % maximum
- Trichodesma Incanum - no traces
- Heliotropium Lasiocarpum - no traces

All other terms and conditions of the above contract and Addenda to it remain fully in force.

BUYERS : SELLERS :

ADDENDUM No. 3

to Contract No. September 1985 between as the Sellers and V/O "Exportkhleb", Moscow as the Buyers.

Moscow,

Sellers to supply official certificates issued by competent authorities regarding analysis of each shipment evidencing that Grain delivered under the above contract does not contain more than following permissible limits established in the USSR of below substances :

Carbaryl (Sevin)	no trace
Chlorpyrifos-Methyl (Reldan)	10 mg/kilo
Carbofuran (Furadan)	0,1 mg/kilo
Trichlorfon	0,1 mg/kilo
Baygon (Propoxur)	0,05 mg/kg
Diquate (Reglone)	0,05 mg/kg
Fenthion (Baytex)	0,10 mg/kg
Dithiocarbamates (Zineb)	0,2 mg/kg
Malathion	8,0 mg/kg in grain
Dichlorfos (DDVP)	0,3 mg/kg
Chlormequant Chloride (CeCeCe)	0,1 mg/kg
Diazinon (Bazudin)	1,0 mg/kg
Pirimiphos-Methyl (Actellic)	5,0 mg/kg
Phostoxin	0,01 mg/kg
Carbon tetrachloride (CC14)	50,0 mg/kg
Carbon bisulfide (CS2)	10,0 mg/kg
Fenitrothion (Methation)	1,0 mg/kg
Foxim (Valexon)	0,6 mg/kg
Eldrin	no trace
Heptachlor	no trace
Hexachlorocyclohexane	no trace
D.D.T.	no trace
Methyl Bromide	35 mg/kg in grain, as per thin layer chromatography with sensitivity of 0.5 mg/kg.

All other terms and conditions of the above contract and Addenda to it remain fully in force.

BUYERS : SELLERS :

1986) EDB - no trace

ADDENDUM No. 4

to contract No. dated September (1985) between as the Sellers and V/O "Exportkhleb", Moscow, as the Buyers.

Moscow.

This day it has been mutually agreed upon that each lot of Feed grain is to be accompanied by a veterinary Certificate issued by an officer of the State Veterinary Service of the country of origin of the goods confirming that the feed grain in question is originated from regions free from infestious diseases dangerous for cattle and poultry such as foot-and-mouth diseases of usual and exotic types of virus, anthrax, New Castle diseases, classical and African swine fever, epidemic pneumonia of cattle, rinderpest, contagious bovine pleutopneumonia. hog cholera, swine vesicular disease.
Further, it is to be certified that Grain is not toxic, without fungous and bacterial diseases, not treated with poisonous chemicals and pesticides during storage and growing and that it does not contain more that the permissible limits, as established under official USSR standards, of the following substances :

1. Heavy metals
   Mercury - maximum 0.01 milligrams per kilo.
   Lead - maximum 0.2 " " "

2. Aflatoxin B1 - maximum 5 micrograms per kilo
   other Aflatoxin - no traces

All other terms and conditions of the above contract to remain in force.

BUYERS : SELLERS :

465653SOYPRO
Y
177300 ANIAME

TELEX NO. 1747/87

MAYO 11 DE 1987.

COOPR EVANS AND ASSOCIATES
MRS. KRISTI LIVINGSTON.

ACCORDINGLY, OUR MEETING HELD LAST WEEK WE WOULD LIKE TO INVITE --
IOWA'S COMPANIES TO BID SOYBEANS FOR NEXT WENDSDAY THE 13TH.

THE OFFERS WILL BE RECEIVED BEFORE 16:00 HOURS AND WE REQUEST THOSE
FIRM UNTIL 20:00 HOURS, YOU CAN USE TELEX, OUR NUMBER IS: - - -
017-77-371 OR 017-73-600 ANSWER BACK ANIAME

1.- 6,000 TONS. (75 HOOPERS CARS) (5 0/0 SELLER OPTION)
C P F MIDDLE BRIDGE EL PASO, TEXAS.
1ST. OR 2ND HALF JUNE (BUYER'S OPTION)
MAXIMUM GROSS WEIGHT PER CAR 109.2 METRIC TONS. AND

2.- 6,500 TONS. (75 HOOPERS CARS) (5 0/0 SELLER OPTION)
C P F MIDDLE BRIDGE LAREDO, TEXAS.
1ST. OR 2ND HALF JUNE (BUYER'S OPTION)
MAXIMUM GROSS WEIGHT PER CAR 122 METRIC TONS.)

QUALITY:

U S NO. 2 OR BETTER.
IN ADITTION
MOISTURE 13 0/0
ADMIXTURE 1.5 0/0

WE WOULD LIKE YOU TO CONFIRM PROTEIN AND OIL CONTENT.

WE WOULD PROPOSE THIONVILLE LABORATORY (NEW ORLEANS) TO MAKE ANALISIS
OVER SAMPLE TAKEN AND SENT BY F. G. I. S.

PAYMENT

ANIAME WILL BE STABLISH 1 OR 2 LETTER OF CREDIT ON A FIRST CLASS -
AMERICAN BANK, USING GSM-102 PROGRAM OF COMMODITY CREDIT CORPORA--
TION REGISTRATION COST ON OUR BEHALF.

PERFORMANCE BOND

WE REQUIRE A PERFORMANCE BOND FOR 10 0/0 OF TOTAL AMOUNT FOR THE -
SHIPMENT PERIOD AND 30 DAYS AFTER.

NOTICE OF SHIPMENT.

NOTICE OF SHIPMENT MUST BE GIVEN WITHIN 2 DAY AFTER LOADING, BY --
TELEX OR CABLE.

RAILROAD PREMANIFESTATION AT BORDER

SELLER GET OBLIGATION TO PUT ALL DOCUMENTATION AT BORDER ON TIME,
IN ORDER TO PERMIT, HIS REPRESENTATIVE TO FILL ALL THE EXPORT CER--
TIFICATE AND CAR LIBERATION TO MEXICO WITHOUT DELAY. ACORDINGLY - -
TO RAILROAD SPECIFICATIONS.

WE WOULD APRECIATE YOUR SENDING COPIES OF THIS INVITATION TO - - -
MR. ROLAND MCCUBBIN AND MR. DARWIN LUEDTKE.

REGARDS.

A.N.I.A.M.E.

LIC. JOSE LUIS SANDOVAL LUNA
/OPERATION MANAGER

The following article appeared in the Wall Street Journal issue of Sept. 29, 1987

Plan to Help Farmers in North Dakota Sell Potatoes To Hondurans Turns Out to Be Embarrassing Fiasco

Plan to Help Farmers In North Dakota Sell Spuds Proves a Fiasco

* * *

Former Shark-Fin Exporter Denies Any Wrongdoing; A Girlfriend on the Payroll

By Richard Gibson
Staff Reporter of The Wall Street Journal

BISMARCK, N.D.—What started out as a way to export North Dakota potatoes and help extricate farmers from the state's agricultural depression is now being called the Great North Dakota Spud Scam.

The Federal Bureau of Investigation and the North Dakota Crime Bureau are both trying to figure out what happened. "It's terribly embarrassing," says North Dakota's governor, George Sinner. The state agriculture department's former marketing director is more blunt: "We look like idiots," he says.

The whole thing started in the spring of 1986. North Dakota's agriculture commissioner, Kent Jones, heard that a Honduran farm cooperative was looking for seed potatoes, which are used to grow regular potatoes and are produced in great quantity in North Dakota. Since the state was new at the export game—big private grain companies handle most of its wheat shipments abroad—Mr. Jones cast about for professional help.

Shark-Fin Trader

Enter William D. Messner, a red-bearded Floridian. According to interview transcripts released by the state crime bureau and attorney general as part of a file on the case, Mr. Messner told state officials that he was an experienced exporter, as well as a pilot, an attorney and a former senior financial executive for Chrysler Corp.

Mr. Messner also ran a small Miami trading company called Petrolear Holdings Ltd. The company dealt in such items as shark fins and crushed pineapple, but not very successfully. In one interview released by the state, a former associate says that employees were told to address Mr. Messner as *Duce* (leader in Italian).

Mr. Messner, who denies any wrongdoing and maintains that he has "become the patsy" in a political fight, apparently liked to exaggerate. He did work for Chrysler, for example, but the company says that he was only a bill-collection supervisor. After the potato fiasco, Petrolear tried to file for protection under federal bankruptcy laws, but the judge threw out the case for procedural reasons. In remarks from the bench, he called Mr. Messner "an entrepreneur whose many bubbles have burst prematurely."

State crime bureau investigators say that Mr. Messner ran his company largely on his American Express Gold Card, for which monthly bills at times exceeded $60,000. They have been told that while discussing how to finance the potato deal, he threw his card on the table and said that if need be, he would simply charge it.

A Petrolear Car

But Mr. Messner appears to have had an in at the bank that gave him his Gold Card credit line. Alfredo Velasco, a former official there, told investigators that he took at least $5,000 from Mr. Messner and drove a Petrolear car, though more recently the official has described the $5,000 as a loan.

Mr. Messner also picked up big dinner tabs, let it be known that he bought his secretary $1,000 dresses and seemed to be on a first-name basis with Latin American generals. Courtesy of Petrolear, Mr. Jones, the agriculture commissioner, got his picture taken with Salvadoran President Jose Napoleon Duarte. "They avoided customs, and the military came to greet them in Jeeps, with flags flying," an official says of the North Dakotans' reception on a tour of Central America with Petrolear.

By late June, Mr. Jones, a Republican in an elected post, was sold—and determined to act fast. The seed potatoes were spoiling. "Some of the boys had already started hauling their potatoes out into the

Continued From First Page

fields and dumping them," Mr. Jones says.

Around that time, the governor, who is a Democrat, nearly killed the deal inadvertently with some casual remarks to the Hondurans over lunch. He alluded to efforts he had once made—in the spirit of international friendship—to get Cuba admitted to a United Nations agricultural group. The Hondurans' translator, who had participated in the 1961 Bay of Pigs invasion and had spent several years in a Cuban prison, decided that the governor must be pro-red and questioned his intentions.

Nonetheless, the governor and Attorney General Nicholas Spaeth, also a Democrat, both supported the potato sale, though they say that they were wary. They had "specifically, categorically denied requests to advance state money for this project because of uncertainty over who [Commissioner] Jones was dealing with," the governor's office says. Instead, the governor insisted that the Honduran cooperative guarantee payment for the seed potatoes with an irrevocable letter of credit.

But then, fearful that the whole deal would fall apart, Mr. Messner stepped in and said that the Hondurans would pay cash within a week, financed by Petrolear. With that, the sale was approved.

Mr. Messner was ebullient. "He made such comments as, 'We now have a license to pilfer, rape and steal,' " a Petrolear employee told investigators. According to a transcript of the interview, the employee also said that Mr. Messner had called the North Dakotans "a bunch of idiots, so it's easy for me to walk all over them." Mr. Messner maintains that the Petrolear employee wasn't in Miami when he returned with the signed contract. "I'm not denying I said it, but the context or connotation in which it was said" was misrepresented, Mr. Messner says.

A $300,000 Retainer

Nonetheless, state officials contend that Mr. Messner then proceeded to walk all over them. Without getting approval from North Dakota, they say, he changed the contract with the Hondurans so that Petrolear wouldn't have to pay anything for several months. Then he tried to cash a $300,000 retainer from North Dakota that he wasn't supposed to be paid until July 1987.

To accomplish that, Mr. Velasco, Mr. Messner's banker friend, cornered Herbert Thorndal, then the president of the state-run Bank of North Dakota, at Miami International Airport while Mr. Thorndal was waiting for a flight to Honduras to see the arrival of the first potatoes. Mr. Thorndal quickly signed the retainer, turning it into a banker's acceptance, a standard means of payment in international trade that Mr. Messner could turn into cash. Mr. Thorndal wouldn't discuss the case with a reporter, but he has told investigators that Mr. Velasco told him the signing was only a formality. Mr. Velasco declined to comment.

"We were treating it like most North Dakotans—up front and honest," Mr. Jones says. "And we expected that from those we were dealing with."

A few days later, Mr. Messner prevailed on Mr. Thorndal to sign a similar document—one for $1.55 million—to back up future exports of potatoes and other North Dakota products like sunflower seeds and strawberries. But when Mr. Messner tried to cash that one, a suspicious Miami banker called the Bank of North Dakota. "What $1.55 million note?" was the response, and the jig was up.

Investigators have spent the year since then trying to piece together the story, and criminal charges are being considered. Meanwhile, North Dakota and American Express International Bank of Miami, which specializes in trade financing, are suing each other in federal court in North Dakota over the $300,000, most of which went to shrink Mr. Messner's bank overdrafts.

Sloppy Procedures

Mr. Thorndal quit the Bank of North Dakota after an auditor's report chided the bank for sloppy procedures. Now in charge of the Farm Credit Service office in Minot, N.D., he has told investigators that he was misled. But Brenton VerPloeg, an attorney for the Miami bank, is skeptical. "The guy was the president of the Bank of North Dakota," he says, "and I would imagine that someone with that experience should know what an acceptance is."

The governor and attorney general are still shaking their heads over the fiasco. Mr. Spaeth, who is leading the state's investigation, notes that state staff was bypassed. "This would never have happened if the commissioner and [the state bank president] had gone by the rules," he says, though he adds that he doesn't think "either of them got a penny out of it."

For his part, Mr. Messner says he is blameless. He says that he cashed the $300,000 retainer simply to pay his company's bills, that he wanted the $1.55 million to establish a bigger line of credit for Petrolear and that although he lent a car to the American Express bank official, he doesn't recall giving him $5,000. "Stupid I'm not," he says. "Dumb yes, but not stupid."

Of all the North Dakotans, Mr. Jones, the agriculture commissioner, probably comes out looking the worst. Instead of using the state's investigators, he hired a private detective to check out Mr. Messner. The detective was the husband of Mr. Jones's deputy commissioner at the time, and he missed a history of bad checks and several civil judgments against Mr. Messner. (The detective maintains that he wasn't given enough money or time to do a first-rate investigation.) Many of the seed potatoes his department eventually shipped came from Minnesota; too many North Dakota potatoes had rotted by then. And investigators discovered that Petrolear had promised to put Mr. Jones's girlfriend on its payroll and had paid for a trip to Denver by Mr. Jones and the woman.

Mr. Jones pleads naivete. "I'm a farmer, I'm not into high finance," he says, adding, "I'm sure I'll get kidded about this the rest of my life."

THE POTATO CONNECTION

North Dakota's Misadventures in Trade

BY *John Freivalds*

THE ROAR OF THE jets at Miami's international airport is constant and deafening. Every day, scores of planes unload from all over the world. Miami, the hub, gets everything: flight capital, drugs, big deals, little deals, intrigue, tourists, big money, yachts. It's all here.

William "B.J." Messner, the principal of a Cayman Island-based trading company named Petrolear, had made a go of it in this unique part of the world. He had stumbled a couple of times, but on this steamy June day in 1986, something good was finally going to happen for Messner and Petrolear. Would it be gold from Brazil? Or, perhaps, emeralds from Colombia, petroleum from Venezuela, silver from Peru?" None of these. What was happening today was potatoes. Potatoes from North Dakota.

KENT JONES knew the stakes. He had talked so much about marketing his state's products that it was time to do something about it. Tens of thousands of dollars had been spent on studies and trips to Latin America, but still nothing had materialized. Although being commissioner of agriculture of North Dakota was not a bad job, being governor would be better. As he looked out at the endless prairie from his office in the tallest building in North Dakota, Jones resolved to make this deal go through. All the risks had already been taken, and it was time to move.

THE POTATOES that Kent Jones wanted to sell and Messner wanted to broker were destined for a bit part in the escalating drama in yet another part of the world — the tortured Honduran territory hard on the border with Nicaragua, a place where the Contras' trails run through the grass. Petrolear's man in Honduras, Pedro "El Bebe" (the Baby) Benetez, knew that the Honduran government wanted to develop this territory in the hope of discouraging local adventures of the Contras and their Nicaraguan enemies. Benetez, who had worked as an adviser to farm cooperatives in this region, also knew that the Hondurans needed good seed potatoes here. He relayed this information to Petrolear in Miami.

John Freivalds is the Minnesota manager of EurAmerica, an international advertising and communications agency. He formerly was the founding publisher of Foreign Trade *and* Agribusiness Worldwide.

Valuable assistance in the preparation of this article was also provided by Randi Mikkelsön of Agweek.

BRICKELL AVENUE in Miami is really the financial capital of Latin America. In the middle of this steel and glass high-finance zone sits the American Express Bank International. Like scores of banks around it, American Express Bank offers a variety of private banking services: fiduciary payments in Switzerland, call accounts in Panama and Grand Cayman, Eurodollar time deposits, demand accounts in London. Among the businesses financed by the bank was Petrolear, a loose coalition of paramilitary types, lawyers, traders, and miscellaneous operators. Bank officials had been growing concerned about Petrolear's outstanding balances, but they kept taking risks with the trading company nevertheless, because Petrolear kept bringing in customers — customers such as the officials from North Dakota who were seeking financing for their potato deal. Petrolear might not have been the ideal credit risk, but American Express Bank officials weren't expecting that in Latin American deals.

With the bank's help, the potato deal indeed went down. But not quite in the way envisioned by the North Dakotans. The state is out about $106,000. On top of that, the American Express Bank is suing the state — and quite a few other people. Only Petrolear has made money on the deal so far — although not enough to keep it from filing for bankruptcy.

There is some consolation, however. The seed potatoes were planted in Honduras and are doing their job of providing food for the local people — although it is not known what effect the project has had on the Contra-Sandinista war. The effect of the project on North Dakota bureaucrats is known: They are plenty embarrassed. And maybe they have learned a little something about the pitfalls that await the innocent and unwary in international trade.

The myth and the mess

MUCH OF THE MESS can be traced back to a decision made in Washington, D.C., in 1982. The myth of the Yankee Trader lived in the minds of Washington, D.C., bureaucrats who dreamed up legislation that would encourage everybody — banks, companies, ports, and even governmental bodies — to form export trading companies. The Japanese wouldn't know what hit them. At least that's what the authors of the

BAKED, MASHED, AND FRIED

SORTING OUT responsibility among the key players in the North Dakota trading fiasco has been confusing. Basically, state officials' attempts to do business through a little known outfit called Petrolear have led to lawsuits, countersuits, and an FBI investigation.

NORTH DAKOTA ATTORNEY GENERAL

Nicholas Spaeth

He says Jones improperly issued $1.85 million in notes without approval from the State Industrial Commission.

NORTH DAKOTA COMMISSIONER OF AGRICULTURE

Kent Jones

He defends his actions and says the notes were IOUs for services to be rendered in the future.

NORTH DAKOTA GOVERNOR

George Sinner

He and the attorney general had early reservations about open terms of credit and financing sales through the state bank.

PETROLEAR PRESIDENT

William "B.J." Messner

"I'm the wronged person and not a crook," he says. His company has now filed for bankruptcy.

legislation thought.

In North Dakota, Kent Jones and other politicians saw something promising in that legislation. To export the state's farm products, they had to sell those products to big exporters, firms such as Cargill and International Multifoods that some North Dakotans perceived as exploiters of the state's farmers. North Dakota has the distinction of being the only state in the union with its own state-run milling complex and its own state bank. So when all the conferences, seminars, and articles began appearing about the export trading companies, there were some North Dakotans who believed that their state should have one of those, too.

While Kent Jones could easily explain the value of an export trading company to farmers in a half-hour speech, starting one was another matter. Someone with a *name* had to design it. Two proposals were solicited, one from the Citadel Group in New York, and the other from a Harvard University group. Citadel, run by ex-Chase Manhattan bankers, was chosen even though its proposal was the more expensive. Being a New York firm helped, for isn't that where all trade was conducted?

The Citadel Group people could write as well. In a proposal to the state, Citadel expressed its understanding that the state could have a trading company by noting in modern consultese: "These policy questions and issues have led to a thorough review of the constitutional and statutory provisions which might limit the structural options available to the state in its efforts to develop a trading company policy and strategy. Although the review is not yet complete, apparently the constitution and statutes will allow instrumentalities of the state to participate in expanding export trade." Translation: the state can have a trading company.

For good ole boys sitting in a cafe in Gilbey, North Dakota, or at a livestock ring in Minot, those words were meaningless. What they wanted to know was what the state trading company might buy, and for how much?

Jones was optimistic that the New York financiers would answer these questions. Whereas most businesses start slowly, the New York consultants thought big and fast. Right away, the New Yorkers advised, the North Dakota trading company should open offices in Japan, Mexico, and the Netherlands and have a headquarters staff consisting of a president, vice president of marketing, vice president of finance, vice president of operations, vice president of trading, and a staff of 12 people. With office expenses of $222,000, plus $865,000 for salaries and $760,000 for the overseas offices, first-year costs of the Citadel plan would have added up to $1,847,000.

But true traders shouldn't concentrate only on costs, for the revenue stream was attractive with projections of $25 million in sales the first year, and $95 million by the fifth. Given an average commission of 4.3 percent, the first-year losses would be only $377,000. By year three, the trading company would be making $1.2 million before taxes and providing a valuable service as well. The Citadel Group claimed it contacted 298 North Dakota companies, farmers, ranchers, and elevators. The top countries selected for the trading venture were Canada, Taiwan, Mexico, Colombia, Venezuela, and Holland.

The authors of the study waxed poetic about the potential of the trading company and came to the conclusion "that the trading company is quite likely to be viable should it be able to raise sufficient capital to initiate its operations and to absorb its first-year operating loss." The study's concluding comment was: "Overall, an export trading company owned by North Dakotans and primarily focusing on North Dakota products throughout the world should find a viable niche in U.S. exporting. The involvement of the state as a catalyst in the company's start-up period and subsequently in overseas marketing will lend a degree of credibility to the trading company and may be an important factor in its success." Just what the state policitians wanted to hear.

But as soon as the $50,000 study was released in January of 1984, it died. No one in North Dakota could believe what the New Yorkers had proposed. Everyone was thinking of a little office near the mill and elevator, not a bureaucracy full of vice presidents.

So a year later, the state of North Dakota commissioned another study to come up with a more workable plan. To accomplish this, they hired Kathleen Hagen, a Jamestown, North Dakota, lawyer, and paid her $15,000 to design an export trading company and figure out how the

The Lure and Fallacy of Identity Preserve

EVER SINCE FARMERS were invented, they have clung to the false notion that their crops or livestock are different from or better than their neighbors'.

Part of the problem in the North Dakota potato sales was the idea that the state could separate its agricultural products from the stream of commodity commerce. The people who actually use agricultural commodities, however, want standard grades on those commodities and usually could care less who produced them. This is painful news to a farmer who has suffered through droughts, storms, hailstones, and diseases to produce a crop or raise livestock. But in the end, those crops or livestock are undifferentiated commodities that simply go into the commodity pipeline. Of no surprise to commodity brokers is the fact that a third of the North Dakota seed potatoes sold to Honduras actually came from Minnesota.

The appeal of directly selling a state's commodities is tempting to politicians, and not just in North Dakota. In Minnesota, politicians indulge in the fallacy of "identity preserve" sales every year when the Taiwanese buying mission arrives in the Twin Cities. On one occasion, the Taiwanese were even feted at a dinner in the Capital Rotunda. Minnesota politicians, regardless of party, proclaim the uniqueness of the Taiwanese buying mission's visit to Minnesota, but last year the politicians forgot to mention that the Taiwanese went to 29 other states as well. These staged missions are public relations coups for the Taiwanese, who are seeking to bolster their lagging political support by buying in 29 states instead of sending out orders from Taiwan. In each state visited by the mission, the governor can claim credit for the sales that result.

The Taiwanese grain-buying mission here every year gives the illusion that the Taiwanese are buying only Minnesota grain. "This is pure rubbish," says one prominent Minneapolis grain broker. "The contracts call for delivery of a certain quality and quantity at designated ports, usually on the West Coast. The grain that is delivered there can be and is delivered from everywhere."

And even if it were Minnesota grain, the Taiwanese aren't paying any more than they would for Montana grain, and the resultant impact on process is the same if it is bought in another state.

What all these theatrics do, however, is create an impression that public officials are responsible for making an identity preserve trade on behalf of farmers who would not have been able to sell otherwise.

A real danger in perpetuating the illusion of identity preserve sales is that common commercial judgment will be lost in the pursuit of publicity. That, in fact, is the heart of the mess that was created in North Dakota.

—*John Freivalds*

Preceding page potato photograph by Dan Vogel

firm should operate. While her report called for no elaborate structure, it did not give good guidelines either. Now the trading firm would be totally state-owned and run through the mill and elevator.

After this second study was completed, no one was particularly upset with the lack of action, but REP. Kent Jones and DEM. Governor George Sinner were getting on each other's nerves. (North Dakota is different from most states in that the agriculture commissioner runs for office just as the governor does, making it possible for the two to be from different parties.) The governor was not sure where all these studies would lead or if the trading company would be viable, but he was willing to let Jones, a potential rival, forge ahead — and if it did not work Sinner would know where to place the blame.

Soon come back

WHEN TRADING COMPANY fever subsided, Jones got excited about President Reagan's Caribbean Basin Initiative. Although studies done for the state's trading plan had targeted Canada as the prime market and Japan and Holland as other important markets, the Caribbean offered palm trees, azure water, and a warm opportunity.

A few months after the completion of the Citadel study (and six months before the state election), Jones had engaged a Washington consulting firm, E.A. Janke and Associates, to develop a Caribbean itinerary for him and several associates. Their plan was to go to the Caribbean and propose the development of agri-processing facilities that would use North Dakota grain.

Jones joined the endless stream of businessmen who flocked to the Caribbean in those days looking for deals. He first went to Washington, D.C., in September of 1984 to do groundwork for his trip, reporting to the press back home, "The officials I met with felt our proposal had tremendous potential for success and, subsequently, we arranged to meet with embassy officials of six targeted countries: Brazil, Costa Rica, the Dominican Republic, Guatemala, Honduras, and Panama."

If the list of countries was impressive, so were the projects being developed: processing projects using potatoes grown from North Dakota seed, a refinery using North Dakota sunflower oil and seed, an edible-bean processing facility, a durum wheat processing facility, a dairy cattle proposal, and even a seafood operation using North Dakota grain. Two months later, Kent Jones was re-elected commissioner of agriculture.

The next step was to visit the target countries, so Jones and a delegation of potato growers, flour millers, sunflower farmers, and consultants began touring the Caribbean in June 1985. "We found strong interest in our program," Jones reported to the press after the Caribbean tour. Then six months later, on a frigid December morning, representatives from the organizations they had visited in Costa Rica, Honduras, and Guatemala came to North Dakota. Jones was ecstatic, and the local press played up the visit. North Dakota's state-operated venture into world trade appeared to be on its way.

PETROLEAR PUT PRESSURE ON JONES TO SHIP THE SEED POTATOES IN ADVANCE, PAY PETROLEAR'S COMMISSION IN ADVANCE, AND GIVE THEM A FIVE-YEAR, EXCLUSIVE CONTRACT. JONES DID NOT KNOW THAT PETROLEAR WAS DEEPLY IN DEBT.

Things get worse from here

AMONG THE visitors to North Dakota in December of 1985 was a Caribbean businessman named Gabriel Nemeth, who was then working for M.P. Clark Associates, a Miami consulting group. A few months later, M.P. Clark became part of Petrolear Holdings of Miami. And that is how North Dakota's state trading company came to link its fortunes with those of little-known Cayman Island operators.

After his visit to North Dakota, Nemeth got back in touch with Jones in April to discuss the state's various proposals. Jones recalled in a newspaper interview: "He explained to us that Petrolear was a consortium of consultants who each had specialized expertise in imports and exports, and added that they had strong representation in Honduras and Costa Rica, two of our target countries."

From that point, events began to move quickly. On June 14, Jones and his assistant, Laurie McMerty, and Herb Thorndal, the president of the state-owned Bank of North Dakota, went to Miami to meet with Petrolear officials. It was there that B.J. Messner, the president of Petrolear, became really involved. Messner, who declines to confirm whether he holds Canadian or Austrian citizenship, had been in a number of other businesses before Petrolear, including refrigerated transport.

Messner had created Petrolear to make

The Ahpropapa-Feproexaah delegation joined North Dakota officials for lunch in the summer of 1986. On left, Herb Thorndal, former president of the Bank of North Dakota, and Governor George Sinner.

deals. According to Messner, Petrolear was named to be a part of Lear Oil and Gas in Canada; however, the deal never went through. In its public face, Petrolear claims to have a dozen-year history as a produce shipper in the Caribbean and "headquarters in the Cayman Islands and major offices in Miami." Those major offices in Miami are reached by a phone shared with two other companies associated with Messner — Red International Investments and Colonial Cathay Financial Corporation. Kent Jones says that when he requested a brochure on Petrolear, Messner told him, "We don't have any. It costs money to print brochures."

Kent Jones tried to check out Petrolear's reputation by calling a number of people in Central America, but it was really difficult to ascertain much more about Petrolear. Jones, however, was satisfied during his Miami visit and proclaimed to his constituents back home that Petrolear's "got the best damn staff in the Caribbean." (Among Petrolear's employees was "El Bebe" Benitez, one of the most flamboyant of Petrolear's employees/agents/associates/colleagues/consultants. Avowedly anticommunist, Benitez says he has worked for "U.S. Intelligence" throughout Central America.)

In pursuit of the seed potato deal first suggested by Benetez, Jones and McMerty flew to Honduras on June 15, 1986. There they were met at the airport by a military escort. Jones was impressed. A whirlwind tour put the pair from North Dakota in touch with banking and government officials.

Then, on June 17, the event occurred that Jones had longed for since the trading company idea began germinating — a sale. The sale was for 4 million pounds of seed potatoes to Ahpropapa, a poor farmer's cooperative in Honduras near the Nicaraguan border.

The following week, representatives of Ahpropapa and its parent cooperative, Feproexaah, came to North Dakota to complete the sale and to propose nine additional purchases during the coming year. The sale seemed like a double coup for Jones, for not only had he made a sale, he had also replaced the Dutch supplier who had been selling potatoes in Honduras for 30 years.

Up until this point, it is hard to criticize Jones, who saw himself as a "facilitator," according to former Governor Allan Olsen, now practicing law in Minneapolis. Jones, it appeared, had accomplished what other state politicians have long hoped to accomplish. Perpich in Minnesota, Janklow in South Dakota, Ray in Iowa, and Earl in Wisconsin have all made their pilgrimages and have usually come back empty-handed. Jones had done something different.

Because it has a state-owned trading company, North Dakota is the only state that has the potential to do what it's doing, Messner says: "I think this has been Kent Jones's dream. He's not a dot-your-i kind of guy — he's an action guy." That reputation would soon get Jones into trouble.

IN THE TRADING BUSINESS, COMMISSIONS OF 2 PERCENT TO 5 PERCENT ARE COMMON. WHY DID PETROLEAR GET 56 PERCENT?

Commitment or credit?

WORLD TRADE 101 has since time immemorial taught *never* ship your goods unless you have an irrevocable letter of credit; *never* pay your agent for a sale before you are paid, and *never* give a long-term exclusive to an agent until he has proven himself. But Petrolear had its own version of how world trade should operate.

Petrolear and the cooperative Ahpropapa began putting pressure on Jones to ship the seed potatoes in advance and pay Petrolear's commission in advance. What Jones did not know is that Petrolear was deeply in debt to American Express Bank in Miami.

Jones wanted to ship the potatoes and pay the commission in advance so as not to "lose the deal," he says. Other observers felt that this was his ticket to becoming governor. He did not believe there would be a problem. As he understood it, North Dakota would ship the potatoes, Ahpropapa would plant, harvest, and sell them. Feproexaah would back up Ahpropapa's purchase with a guarantee fund it received from the U.S. Agency for International Development. Jones wanted the Bank of North Dakota to finance the purchase of seed potatoes for shipment.

However, North Dakota Governor Sinner and Attorney General Nicholas Spaeth expressed reservations about selling seed potatoes on open terms and financing the sale through the Bank of North Dakota. Jones recollects: "They asked that we arrange another method of payment and secure letters of credit for the ensuing nine sales." That is what Jones did.

And that is where the story gets even more confusing. When Jones began looking for a financing method, Petrolear was quick to provide one. Petrolear agreed to say it was advancing the money for the technical assistance to help plant the potatoes and to arrange financing for the initial sale through the American Express Bank of Miami — if the North Dakota Agriculture Department provided a "letter of commitment" to pay Petrolear $210,000 for technical assistance in addition to the $90,000 in commissions, $9,000 for each of 10 shipments throughout the coming year.

With this done, Jones convinced potato broker and grower Bob Dunnigan, of Valhalla, North Dakota, to buy enough seed potatoes to ship to Honduras. Dunnigan, who procured enough potatoes for a four-truckload shipment to New Orleans early in July, believed he was to be reimbursed with a check from the state agriculture department for $16,000 — $2,000 for his commission and the rest for payments to the growers. It would be five months before Dunnigan saw any of that money.

To date, no one has questioned why Petrolear was earning a $9,000 commission for $16,000 worth of seed potatoes — 56 percent. In the trading business, commissions of 2 percent to 5 percent are common.

Only a few days after the potatoes had been shipped to Honduras, Petrolear insisted on extending its contract with North Dakota to five years. The state, through the Bank of North Dakota, issued yet another "letter of commitment," with the understanding that it would negate the first "letter of commitment." (What was understood by "letter of commitment" is now the heart of a legal argument. As a form of finance, the term was a new invention.) The second letter raised the stakes considerably, committing the state of North Dakota to pay $1.55 million in commissions and technical assistance connected with the future sale of 20 million pounds of seed potatoes.

Messner says that Petrolear was going to use these letters of commitment to open its own financing in the potato deal. He considered the letters negotiable instruments and presented them to the American Express Bank. The bank cashed the first letter, but it wouldn't cash the second one because it lacked an "acceptance" from the Bank of North Dakota. According to banking regulations an "acceptance" is a legal term describing a bank's commitment to pay.

Thorndal, at the request of American Express Bank, had signed an acceptance for the first note in Miami in July. With that done, Petrolear took it to the Amer-

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has had a black lining. The company seems to have scored a direct hit with its National Aerospace Training Corporation, a subsidiary that operates on a strong safety and training record by offering training for other people's pilots. And, already the $140 million spent to buy half of the PARS system from TWA is paying off. While NWA hadn't had much luck selling its POLARIS system to travel agencies, there are now PARS terminals in more than 4,000 of the nation's 29,000 travel agencies. Since buying the system, NWA has placed PARS terminals in 47 Upper Midwest outlets of Ask Mr. Foster, the largest retail travel agency in the world. That is particularly pleasing to Rothmeier, since it came at the expense of arch-rival United Airlines' APOLLO terminals.

The importance of the agency terminals cannot be overemphasized. More than 80 percent of the company's bookings come from travel agents who gather vital marketing information from passengers — information available to the airline that owns the reservation system, but not to other companies whose flights are booked through the system.

The merger has also succeeded in an area of great concern to Northwest. The addition of Republic's reservation system did, indeed, add bulk to Northwest's "domestic feeder" network — the supply of flights and passengers to so-called international "gateway" cities — and, partly as a result, the company's market share in the Pacific has actually increased. Maintaining share — it has 30 percent of the Pacific market overall, 50 percent among domestic carriers — is critical to the future of Northwest; over half of its profit is generated in the Pacific. This past year, despite all the problems associated with the merger, the company generated $140 million in operating profits on its Pacific flights — the highest total in Northwest history. "I guess," says Rothmeier, "we must be doing some things right."

Potatoes

(continued from page 62)

ican Express Bank and got it "discounted." By this transaction, Petrolear got immediate cash by selling the note. However, Thorndal now says that he asked American Express Bank officials whether he was signing a negotiable document and was told that he wasn't. None of this was known to Governor Sinner and Attorney General Spaeth, who, along with Jones, made up the Industrial Commission, a legal state entity that must approve such transactions.

By the time the governor and other officials learned of Petrolear's financial chutzpah, the state of North Dakota had already spent $106,000 to buy, ship, and insure potatoes, plus pay travel costs and fees to Petrolear and the banks. Of that $106,000, only $14,000 actually went to potato growers.

On top of the commission and fees it received, Petrolear had also — thanks to the first obliging letter of commitment — received an advance payment of $264,000 from the American Express Bank (which planned on repayment from North Dakota). And, flushed with success, the obscure trading company was on the verge of cashing in on the $1.55 million "commitment" as well. Quite a deal for Petrolear. Or was it?

From conversations with Herb Thorndal and B.J. Messner, the following scenario emerges. In July of 1986, Petrolear owed the American Express Bank $36,604 in overdrafts, a sum that the bank doubted it would get back. Since the state of North Dakota had deeper pockets than Petrolear, the bank discounted the $300,000 "commitment." Whatever Petrolear's debts, however, North Dakota officials clearly intended the $300,000 as payment to Petrolear for *future* work.

A judge must now decide whether the acceptance that Thorndal signed legally binds the Bank of North Dakota. The state doesn't think so and is seeking to

have the letters of commitment nullified. Attorney General Spaeth maintains that the state agriculture department improperly issued $1.85 million in notes without getting approval from the State Industrial Commission. Furthermore, Spaeth says, no department has the authority to commit its budget beyond the current biennium. Commissioner Jones exceeded his authority, says Spaeth.

Jones defends his actions and says that the notes were essentially IOUs for services to be rendered in the future; they were not to be paid until Petrolear lined up a certain amount of business for North Dakota.

The issue quickly changed from political and personal accusations, to the civil liability of the state. In August, Spaeth filed the first suit to emerge in these transactions.

Meanwhile, the governor has asked a prominent North Dakota businessman, Al Goldberg, to help sort out the mess.

The aftermath

IN MIAMI, B.J. Messner has his own version of events: "I'm the wronged person and not a crook," he says. Furthermore, he says that he still has a viable contract with North Dakota, but he admits there should be an "amicable restructuring of the project." Everyone, he says, "has interfered so dramatically that nothing has happened since the first shipment."

As of this past May, the state of North Dakota was holding the bag. After repaying Bob Dunnigan for the seed potatoes with funds from the state mill and elevator, the state was reimbursed by the Hondurans with lempiras that couldn't be converted into dollars; then even those lempiras disappeared. The FBI has begun an investigation to determine whether federal or state laws were violated in the transactions between the state of North Dakota and Petrolear. Of concern is whether Petrolear tried to take a double dip — to cash the $300,000 note *and* the $1.55 million note — even though the second letter was intended as a replacement for the first.

Meanwhile, the American Express Bank is out $264,000 and has responded by suing the following: the state of North Dakota, the Bank of North Dakota, the North Dakota Department of Agriculture, and Kent Jones, Laurie McMerty, and Herb Thorndal, individually. The bank is also suing Petrolear and B.J. Messner. Petrolear is suing American Express Bank. After the American Express Bank filed its lawsuit, Petrolear responded by declaring bankruptcy.

Also headed to court are the state agriculture department's Kent Jones and Laurie McMerty, who are countersuing everyone who is suing them — including the state of North Dakota. And, in an unusual legal two-step, the state, which is suing Jones and McMerty as individuals, will also be defending them as officers of the state in separate actions brought by American Express Bank.

As for "El Bebe" Benitez, Petrolear's man in Honduras, the operator who first pointed out the need for seed potatoes there, he became North Dakota's agent in Honduras, operating a company called U.S. Agricultural Trading Agency Inc. Honduran bankers, however, were reported to be reluctant to deal with him. The most recent news on "El Bebe" is that he dropped out of sight about the same time as North Dakota's lempiras.

And, as for the potatoes growing in Ahpropapa, they have the most interesting background of all. Last July, in his drive to round up enough Red River Valley seed potatoes to fill the order quickly, Bob Dunnigan, like any broker, wasn't worried about exactly where in the Red River Valley those potatoes originated. As it turns out, about a third of the seed potatoes he bought were actually grown on the other side of the Red River. In Minnesota.

Electronic Trading—

A Grain Marketing Revolution?

by Bill Whitehouse

Grain trading is taking a long time to catch up with the microchip revolution—and both buyers and sellers are paying the price, contends Wayne Purcell, ag economist at Virginia Tech."There's a tendency among commodity traders to say 'Don't fool with grains. There's nothing broken, so don't try to fix it,'" observes Purcell. "But the system is badly broken." Purcell and colleagues have spent the better part of five years documenting the problems and working toward a solution. The result: Grain Electronic Trading System (GETS).

Imagine your microcomputer linked by GETS to a central computer, which is linked to the computers of several other grain traders. "GETS is like a big telephone. If every trader in the U.S. had a microcomputer linked to GETS, the only difference from the present telephone system would be that communication would be directed through a central computer," explains Purcell. "A seller's grain would be exposed to all interested parties. Buyers would see the total supply fitting their specified parameters."

The GETS menu format allows users to search for and execute bids and offers; displays a summary of trades; a directory of traders, market news and futures reports; and offers a selection of transportation arrangements.

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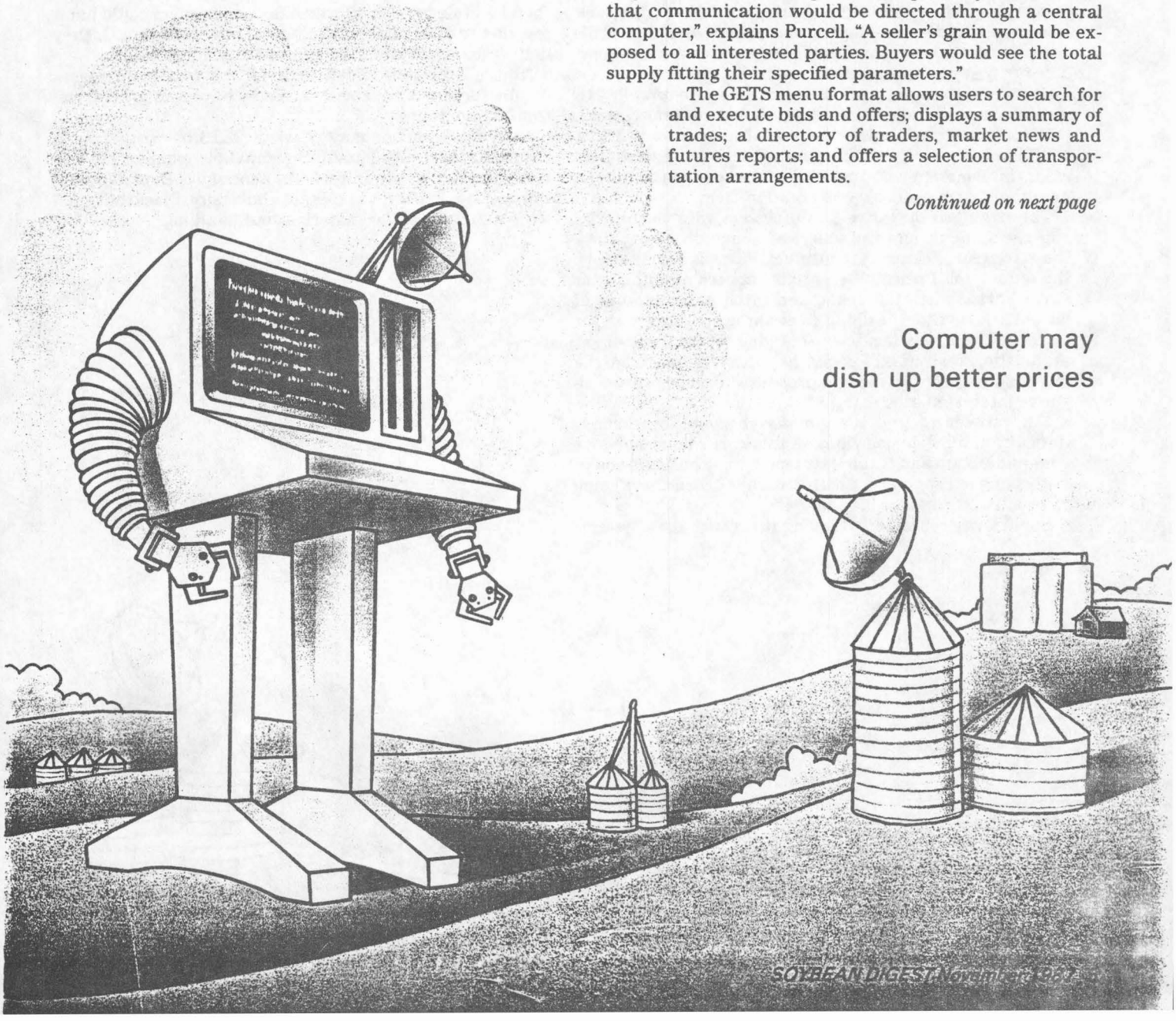


Computer may dish up better prices

Marketing Revolution?

Continued from page 5

Trading would likely focus initially on corn, soybean meal and wheat in two major areas: grain moving from the western Corn Belt into feedlots in the Southwest, and from the eastern Corn Belt to supply poultry farms in the Southeast. "We anticipate trading will spread rapidly to all geographic areas. And it's likely to incorporate other commodities shortly thereafter," he says.

"Some elevators will access the system over dedicated phone lines. More remote elevators can be served by inexpensive satellite dishes," envisions Purcell. The service will likely cost users around $200 to $300 per month. But in addition to connect charges, actual costs will vary with the amount of time spent on the system, the level of trading volume and the extent of a user's search strategies.

While the program is still being developed, Purcell is convinced such a system will increase competition and result in better prices for producers. "Surveys around the country identify the same problems: price differentials, lack of access to adequate buyers and sellers and the inefficiencies of the current antiquated, slow system where buyers often pay too much for grain," he says.

Success of the system will depend in part on its ability to identify buyers and sellers who may not ordinarily work with each other to increase the level of competition. "And it will," Purcell maintains, "because traders can access necessary information without all that time spent on the phone or without hiring a broker to do it for them."

The strongest initiative for the system will come from its end-users, the buyers and sellers of commodities who have the strongest incentives, continues Purcell. For example: the reduction of price differentials between elevators that exceed transportation costs, and often exist because of lack of information. "As long as elevator operators can get large and relatively inefficient margins covered, you might argue they really don't care," he adds. "If you're in the margin business and you can protect your margin, then all you're interested in is margin."

But protecting that margin may become increasingly difficult. "If a buyer has what he thinks is a more effective communication and trading system to work on—and you're not willing to list your grain," he reasons, "then that's going to be a lot of pressure in a hurry."

Some large commodity trading firms with data systems already connecting their operations will also feel the pressure. Trading firms who buy in large volume from huge suppliers probably won't like the idea of buying part of their needs on that firm's private system and the rest on GETS. But the customers will force such large firms to become at least partial participants, Purcell says.

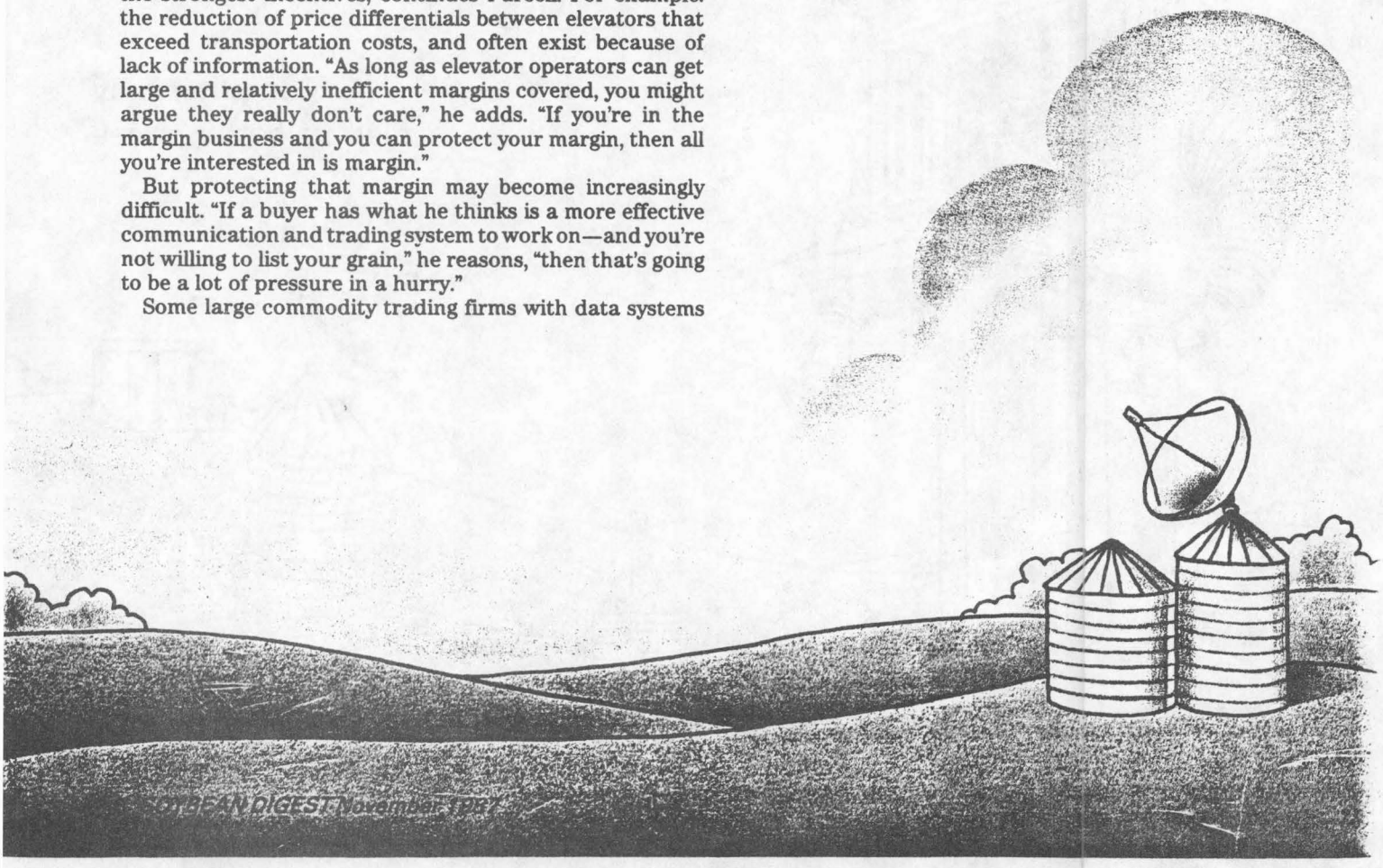
Current private networks operated by grain trading firms are often incompatible, making it impossible for traders to search across each other's systems. "Buyers would wind up paying multiple access fees. And they'd worry, as they do now, about never knowing whether they've looked far enough or made enough phone calls," explains Purcell.

Already, at least four large firms involved in grain marketing and information industries have shown interest in the GETS program. Three of them have formed a coalition to study the system's feasibility, and expect to reach a final decision by the end of this year. Purcell remains optimistic. "Their operations mesh nicely. There's a genuine need for this service and there are economic benefits waiting for anyone who gets involved," he says.

Will farmers join the system? "Probably not," says Purcell, "unless they're large volume producers or can justify the expense. But they can likely use the system through their local elevator or a broker. Several farmers could band together to offer sufficient volume to attract buyers. Or they may access the system only for market information.

"But all farmers will benefit as the system increases competition and improves access by buyers to local elevators," Purcell says.

Interested parties may preview GETS by writing for a demonstration disk (for IBM-compatible computers) and user guide to Wayne Purcell, Ag Economics Dept., Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. Include $5 for materials and handling. ○



Graphic By Soybean Digest Art Dept

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