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Source Verification for Iowa Specialty Grain Markets

by Charles Hurburgh, Jr., Chair, Ag Quality Initiative, and professor of agricultural engineering

(First in a series of two)

Quality management systems, with their associated statistical process controls and product tracking, are not new to world industry, but the concept is a

radical departure from the generic commodity mindset that has typified agriculture. Trading undifferentiated commodities at constantly eroding margins provides little incentive for quality beyond that needed for minimal acceptance. However, a number of powerful and wide-ranging forces are converging to create a climate of change.

- Precise analytical and production practices have greatly increased expectations of what should and should not be included in food. Measurements in the part-per-trillion range, or even of individual DNA molecules, enable near zero specifications regardless of their validity in any risk analysis.
- Fewer people are involved in direct food production which has shortened the adoption time for new technologies
- World concepts of quality assurance are in the

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Handbook Updates

For those of you subscribing to the *Ag Decision Maker Handbook*, the following updates are included.

Crop Planning Prices – File A1-10 (2 pages)

Custom Farming: An Alternative to Leasing – File A3-15 (4 pages)

Livestock Planning Prices – File B1-10 (1 page)

Please add these files to your handbook and remove the out-of-date material.

- Biotechnology is creating plant and animal products with value that cannot be captured without process control from production to consumption.
- Consumers in affluent nations have increasing ability to include environmental and social values in purchasing decisions, leading to pressures on production processes as well as measurable quality of outputs.

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mainstream of all markets including those of the USA. Requirements for labeling of biotech products are forcing policy decisions in retail chains.

- Reduced margins are forcing a reexamination of operating efficiencies.
- Food safety and terrorist fears have greatly increased the willingness of food marketers to implement tracking systems for security reasons.

Some attributes cannot be measured by either visual inspection (e.g., natural beef) or by chemical analysis (e.g., BST in milk). In other cases, measurement is possible but cost prohibitive. For some consumers it is the process (how it was produced or by whom) that creates value (i.e., organic, animal welfare practices, locally grown) not the grade. Process control and more importantly source verification is necessary to capture the value of the trait. Finally, increased world security concerns are causing more scrutiny of all products intended for food – either commodity or specialty.

What is Source Verification?

Source verification is the ability to trace products from their initial components (for example, from seed) through a production and distribution system to the end user. Other terms have been used for source verification – trace-ability, product tracking, process verification and others. Source verification automatically applies to identity-preserved products – those that are physically isolated throughout the market – but is also increasingly used for documentation in bulk commodity markets as well. Some examples of soybean products that are or could be source verified are:

- Individual varieties grown by individual farmers (e.g. Vinton 81)
- Specialized bulk products, such as non-GM or large seeded soybeans
- Totally contract controlled products such as health foods, organics or pharmaceuticals
- General commodity soybeans if some risk factor is present (for example an unapproved GM event)

Source verification is a process. Testing for specific traits and special handling are part, but not all of the process. Source verification requires a documentation chain from start to finish, in addition to whatever actual confirmation testing can be done. Source verification functions even when testing is not possible, or when the value of the product is in consumer perception rather than physical attributes. As long as the integrity of the documentation is maintained, the source verification and protection will be intact.

Quality Management Systems

Source verification requires a certified (third-party audited) quality management system (QMS). Quality management systems are formalized procedures for requiring discipline and reproducibility in a production process. Discipline and documentation have not been mainstays of traditionally independent minded agriculture. Quality management systems force operators to document what and how processes are done, then prove through records and audit that the process, however described, is consistent. QMS do not require specific or high quality standards, just that desired standards are met. QMS are also a convenient framework under which to introduce environmental and/or safety standards.

The worldwide framework for quality management systems has been the ISO 9000 series of standards. Many manufacturing industries have customized a “front end” for the ISO standards to make them more user friendly for specific situations. This is also happening in agriculture, as in for example the American Institute of Baking Quality Systems Evaluation (QSE) program for flourmills and bakeries. Custom programs can also incorporate other elements such as food safety or environmental protection not addressed by ISO 9000. The USDA is considering starting a process certification similar to but not totally equivalent to ISO 9000 (See www.usda.gov/gipsa).

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There are strong reasons for creating a recognized general format for quality management systems.

- Reduction of parochial protectionist trade disputes based on process or measurement methods.
- Discovery through discipline of unrealized efficiencies.
- Confirmation to consumers of both process and quality of food consumed.
- Simplification of interchange among market generated QMS programs, so that users and/or suppliers do not become captive to a specific system and its associated marketing network.

For the producer and the user alike, quality management systems have immediate benefits:

- Operating efficiency and cost savings are created through the detailed study of operations required for QMS. Industrial firms have averaged around \$1.50 - \$2.00 of cost and efficiency gains for every \$1 invested.
- The chain-of-custody documentation that is required for a comprehensive QMS will be a major benefit in marketing sensitive or narrowly focused products, such as genetically

transformed pharmaceutical/industrial grains, or specifically fed specialty animals. Some of these products are genuine concerns to general users, and often are very hard to test or validate in the traditional inspect and pay scheme of commodity markets.

- The exhaustive analysis and procedural controls is well suited to reduction in security threats, such as addition of toxic agents or production limiting diseases. For example, white mineral oil is applied for dust control to nearly all grain handled at elevators, and the number of suppliers is very limited. The stringent validation and audit requirements of a QMS, which normally are imposed on suppliers to QMS firms, greatly reduces the chance that a terror agent could be distributed in this way.

For users, buying from QMS producers/handlers is an automatic method of pre-delivery tracking. The producer and first handler must be involved in source verification if any meaningful tracking and/or quality improvements are to be made.

Next Issue: Quality Management Systems for Grain Markets



Can We Save “Agriculture of the Middle?” *

by Fred Kirschenmann, Director, Leopold Center for Sustainable Agriculture

... if agriculture is to remain productive it must preserve the land, and the fertility and ecological health of the land; the land, that is, must be used well. A further requirement, therefore, is that if the land is to be used well, the people who use it must know it well, must be highly motivated to use it well, must know how to use it well, must have time to use it well, and must be able to afford to use it well. Nothing that has happened in the agricultural revolution of the last fifty years has disproved or invalidated these requirements, though everything that has happened has ignored or defied them.

—Wendell Berry

I first ran across these words by Wendell Berry when I read his book, *What Are People For?* in 1990. As a farmer who managed a 3,500-acre grain and livestock farm in North Dakota, I couldn't deny the impeccable logic of his thesis. But neither could I escape the demands of the industrial farming culture, of which I was a part. That culture imposed on

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* This article first appeared in the Spring 2003 issue of the *Leopold Letter*, a quarterly publication of the Leopold Center for Sustainable Agriculture at Iowa State University. The newsletter also is available on the Web at: <http://www.leopold.iastate.edu>.

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me the singular requirement of producing more commodities cheaper than anyone else— regardless of the cost. I felt caught between my long-term goal of maintaining the productivity of my farm by ensuring the ecological health of my land and the social health of my community, and the short-term requirements to produce as much as possible. Almost every farmer I know feels caught in the same dilemma.

Ecologists and farmers alike have understood for some time that natural ecosystems can be managed well only by having people live in those ecosystems long enough and intimately enough to learn *how* to manage them well. We must, as author Barry Lopez reminds us, live in our neighborhoods long enough to know the "local flora and fauna as pieces of an inscrutable mystery, increasingly deep, a unity of organisms."

This is the strongest — and perhaps the only — argument for maintaining our independent family farm system of agriculture in which land is passed from generation to generation. As I have come to know such landed farm families in Iowa and listened to them describe their farms, I have been struck by the fact that they always talk about their farms as members of the family. That is as it should be. That is what it *must* be if we are going to *remain* productive.

We have now reached a point where that kind of agriculture is about to disappear. Since about 1960 the demands of our industrial farming culture have required farmers in Iowa to spend all of their gross income (including government subsidies) to pay the bills associated with producing that income. The result has been that farmers' net income has remained flat, leaving no money to pay for living expenses, let alone investment in land care or community well-being. Meanwhile, farmers are under enormous pressure annually to add more units of production (more animals and/or more acres) just to generate the additional income to pay last year's bills. Little attention has been paid to motivating farmers to use their land well, or even allowing them time to get to know it well.

At the same time, corporations that purchase farm commodities want to reduce transaction costs and, therefore, tend to give preferential contracts to the largest producers, placing smaller farms at a competitive disadvantage. Very small farms have gravitated toward various direct marketing schemes to survive, selling produce direct to customers through farmers markets, community-supported agriculture and other direct market arrangements.

Farms in the middle — those between the direct markets and the markets available through vertically integrated, multi-national firms — are most at risk.

This is not strictly a farm-scale issue, although it is highly scale-related. There are very large, multi-family units that still retain some of the principles in Berry's premise of a farm that can use the land well. But increasingly it is precisely the farms that fit Berry's description that we are losing.

A study prepared by Mike Duffy at the Leopold Center shows that the greatest percentage loss of Iowa farm operators (in acres and total sales) between 1987 and 1997 was among farms of 100 to 900 acres. Meanwhile, the total percentage of sales for farms *under* 100 acres and *over* 1,000 acres increased between 40 and 55 percent. Clearly we are losing these "middle" operations, which make up more than 80 percent of Iowa's farms.

As farms consolidate, land continues to be farmed, likely with less labor, and this transformation has been welcomed by many in the agricultural economy. Indeed, some see it as a necessary "correction" in the market. But Berry reminds us that we stand to lose something much more important—the capacity of the land to *remain* productive.

At the Leopold Center we believe that the loss of "agriculture in the middle" is not inevitable. We see new opportunities — in alternative production systems and new market resources — that can create a comparative advantage for these farms.

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At this year's Practical Farmers of Iowa conference, SYSCO Corporation president and CEO Rick Schnieders told the audience that "markets for sustainably-produced products are there — what is needed are supply chains to deliver those products to the consumer." Building those supply chains is an opportunity for economic development in Iowa's rural communities.

Alternative production systems that are *more* productive but less costly to the farmer and to

the environment must be researched and developed. New supply chains can be built that enable farmers to produce more value and retain more of that value on the farm and in their rural communities.

We also know that additional new public policies could be crafted to help farmers move toward these new systems and encourage them to use the land well. Our goal at the Leopold Center is to bring people, organizations and industries in Iowa together to achieve these goals.



Self-Employment Tax on Rented Land If Some Land Is Not Rented

by Neil Harl, Charles F. Curtiss Professor in Agriculture, professor of economics, 515-294-6354, harl@iastate.edu

Liability for self-employment tax is clear if land is rented under a cash-rent or non-material participation share lease—no self-employment (SE) tax is due. On the other hand, if land is rented under a material participation share lease, self-employment tax is due. However, if some land is rented under a cash rent or non-material participation share base, and other land is operated (or rented under a material participation share lease), the outcome is less clear.

Guidance from the statute

The basic guidance on imposing self-employment tax comes from Section 1402(a) of the Internal Revenue Code. Under that provision, the self-employment tax is imposed on "net earnings from self-employment." The term "net earnings from self-employment" is defined as "gross income derived by an individual from any trade or business carried out by such individual...." If the business is carried on by someone else, FICA tax may be due. If there is no trade or business, no self-employment tax is levied.

The statute proceeds to exclude rentals from real estate but then includes amounts paid "under an arrangement" involving the produc-

tion of agricultural or horticultural commodities where there is material participation under the lease. The statute does not address the SE tax liability of a taxpayer who is carrying on a trade or business but is also carrying on a rental activity.

Stevenson v. Commissioner

The 1989 case of *Stevenson v. Commissioner*, involved a taxpayer who was engaged in the business of purchasing portable advertising signs for rental or for resale. The taxpayer personally assembled and stored at a rental warehouse all new portable advertising signs. The taxpayer also stored all used portable advertising signs, repaired them and held them for sale or rental.

The taxpayer argued that the income from the rental of portable advertising signs was excluded from self-employment income. The taxpayer's position was that the statutory language excluding rentals from real estate and from personal property leased with real estate from self-employment income was only illustrative as to what was to be excluded.

The Tax Court held that the rental and sale of advertising signs was, overall, a trade or busi-

