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RADIO ACTIVITIES
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REPORT ON
RADIO ACTIVITIES
OF IOWA COLLEGES AND UNIVERSITIES
APRIL 1935

BY
W. I. GRIFFITH
DIRECTOR, RADIO STATION W.O.I.

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Report on
Radio Activities of Iowa Colleges and Universities
for
Iowa State Planning Board

In response to an invitation of Professor I. H. Hart, Coordinator of the Committee on Education for the Iowa State Planning Board, to secure data with reference to radio activities of colleges and universities in Iowa, the writer of this report prepared the attached form as a basis of securing data.

This form was sent to twenty-five Iowa Colleges and Universities. The letter was addressed to the President of the Institution or to some administrative head qualified to represent his Institution.

Rather complete reports are submitted as a part of this report, from Dr. Bruce Mahan, Director of Extension Service, University of Iowa, and comment is quoted from letters of the Presidents or representatives of several other Iowa colleges. The writer of this report, includes as a part of the report, what is being done at Iowa State College (WOI).

R A D I O*

The Committee on Education of Iowa State Planning Board, thru Coordinator I. H. Hart of the Iowa State Teachers College, has asked the writer to prepare a report for the Committee as to the present status of Radio as an aid to education in the state of Iowa.

1. Please give us the benefit of your opinions regardless of whether or not individuals and groups representing your Institution have broadcast over your own Radio Station, or over any other station. Also, whether or not use has been made for the purpose of instruction in your Institution of programs arising over some other radio station not connected with your Institution.

* Form referred to in paragraph one.

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I. Historical Background.

Details of any organized work in the field of radio such as broadcasting or using programs broadcast by others.

II. Present Status.

Information on what is being offered in this field, including broadcasting over your own, or other stations, classes in radio technique, or use made of programs broadcast by others.

III. Trends.

Impressions of what trends are evidenced in radio broadcasting of reception in your Institution.

IV. Previous proposals for reorganization.

Details of any plans which might have been contemplated for furthering the use of radio as an educational aid.

V. Summary and applications.

General summation of all information given above and any other suggestions pertinent to this subject.

VI. Recommendations.

All suggestions for your own particular Institution, as well as those which would in your opinion, serve to further the use of Radio as an aid in education in the state of Iowa. This should include a very frank statement on your part of the service now being offered by the broadcasting stations in Iowa conducted by Educational Institutions and the degree of co-operation that you have experienced, together with any suggestions that you may have as to helping these stations render a more efficient service.

In considering the subject of radio under these six headings please include all information that you believe will be of value in a survey of this kind. Your hearty cooperation in this project is greatly appreciated and we trust it will be possible for you to file your report with the writer by February 5.

Yours very truly,

(SIGNED) W. I. GRIFFITH

W. I. Griffith, Chrm.
Sub-committee on Radio and
Visual Education of the
Iowa State Planning Board.

1. Historical Background.

Dean M. J. Nelson reports that some years ago Iowa State Teachers College maintained a broadcasting station for a few years. This was deleted for the reason that it was not possible to comply with the Federal Communications Commissions request that only licensed engineers be employed.

President D. O. Kime, Western Union College, Le Mars, Iowa, reports as follows concerning the broadcasting station that was owned and operated as a part of Western Union College:

"At Western Union College we operated a broadcasting station beginning as early as 1922. The station was increased in power until we were using fifteen hundred watts. Due to difficulties in maintaining a satisfactory program throughout the year, the station was sold to the Sioux Falls Broadcasting Association now operating under the call letters KSOO.

"One of the troubles encountered was with the Radio Commission following demands from commercial stations who desired the channel on which we operated. The commercial interests seem to want to chase off the air any educational classes or programs with the claim that the general public is not interested in these programs.

"It is evident that the radio can be used by the colleges of the state of Iowa. The cost, however, of preparing the programs and the use of the station makes it prohibitive for most educational institutions to use the radio in education. We do not anticipate using the radio because of the cost involved.

"While operating our own station we spent several thousand dollars during a period of six years. The returns were satisfactory but the cost of operation was too great".

The historical background of WSUI and WOI is included in the special reports that follow.

II. Present Status.

Under this heading we should like to consider the report that is submitted by Professor Edwin G. Barrett, managing director of the School of Radio, operated in connection with Drake University, Des Moines, Iowa.

"For several years Drake University has broadcast programs over Radio Stations WHO and KSO, Des Moines. Prior to 1933 there was no organized schedule, although a number of programs, chiefly musical, were broadcast. During the major part of the school year 1933-34, Drake presented two fifteen minute programs weekly over WHO. Members of the Drake faculty spoke on academic subjects on one of the weekly quarter hour periods. The other weekly program was presented by students of the Fine Arts College - musical and dramatic. For two months in 1933, Drake music and drama students broadcast a quarter hour daily over KSO from a remote studio on the campus.

"At present Drake University offers courses in the College of Fine Arts. These were started at the opening of the 1934 fall semester and include:

"Broadcasting 1. Principles of Broadcasting, Development of Radio. Methods and studio procedures, covering fundamental problems of radio speech, drama, music, program arranging, testing in practice studios, and actual experience "on the air". 2 hours credit.

"Broadcasting 2. Continuation of Broadcasting 1. Advanced work in radio program arranging and production. Practical work and exercises in

test studio. Advanced students will have an opportunity to arrange, direct, and produce the programs which our department presents regularly over Stations KSO (and affiliated stations WMT and KWCR) and WHO. This requires consideration of Radio Speech, Music, Drama, and Continuity. 2 hours credit.

"Radio Continuity Writing 1. Exercises and practice in writing announcements, musical program "frameworks", advertising "spots", dialogs, short radio sketches, adaptations of plays for radio presentation, and radio plays. Consideration of problems of radio drama presentation, including use of atmospheric and interlude music and sound effects. (Continuities for all Radio School productions on the air will be discussed and written by members of this class.) 2 hours credit.

"Work in radio courses is under the direction of Edwin G. Barrett, formerly program director of KSO. He has been identified with radio broadcasting for seven years. The advisory board includes Dr. Herbert Gould, Dean of the College of Fine Arts, Prof. J. J. Fiderlick, Professor of Drama and Head of the Department, Dean L. E. Hoffman, Dean of the College of Commerce, and Prof. Emery H. Ruby, Professor of Journalism and Head of the Department.

"Many faculty members have commented on the cultural and educational importance of radio broadcasting, and look for decided progress in this field in the future. Students, particularly those preparing for careers in journalism, commerce, music and drama, recognize the importance of adequate training in radio fundamentals and methods, as well as actual broadcasting experience.

"Drake University's contribution to the furthering of radio's cultural and educational phases has been in the way of broadcasts of worth while

music, and talks by faculty members on educational subjects.

"Radio courses will consider problems of radio in education, as well as the commercial phases of radio broadcasting in general. The progress of radio as an educational aid depends, I believe, on a better understanding on the part of educators, of radio broadcasting problems, opportunities, and limitations.

"Just as commercial broadcasters recognize the importance of serious planning of all radio programs, educators must arrange their radio material to take advantage of the opportunities of this medium of transmission of knowledge.

"Surveys indicate that at least ten per cent of all programs broadcast may be classed as educational in character. These programs must, in a sense, compete with broadcasts which are for entertainment alone. A student cannot easily leave a lecture in a classroom, but it is a very simple matter to turn the dial on a receiving set if a broadcast proves dull or uninteresting. Every well planned radio program must take into consideration the listening audience to be reached, the method of arrangement and plan of presentation which will best reach the audience, hold its interest, and "put over" the message."

President Arthur E. Bennett of Upper Iowa University, Fayette, Iowa, reports that they have made some use of the Iowa broadcasting stations, and appreciate the courtesies that have been offered by WSUI, WMT, and WOI. He is of the opinion that there is a growing demand for classical music. He also believes a great deal can be accomplished by radio debates and that the general public is being "fed up" with cheap radio programs and are demanding programs of a higher standing. President Bennett further adds

"programs emphasizing the personality values of an education and emphasizing the aspects of worthiness in American citizenry are to be commended. Law obedience, real temperance and the safe-guards which education offers for conserving the spiritual values in our boys and girls from our homes offers real opportunities to the courageous of heart."

President John Paul of Fletcher College, University Park, Iowa, states they have accepted the courtesy of broadcasting stations and groups representing the College have presented programs from time to time. He adds "I believe I have observed a wholesome growth in educational influences promoted through the radio. The Colleges come to feel that, aside from the direct services they render to their patrons, they have a more effective opportunity to contribute to cultural uplift in general."

Grinnell College has used a period known as the Grinnell Hour over WOI, since December 1933, and feels that it is an opportunity for raising the general cultural level and stimulate an appreciation for music of this type.

Dean William E. Berry of William Penn College, Oskaloosa, Iowa, states that they have occasionally presented programs over some of the radio stations in Iowa. He further states - "In general I think there is a very great opportunity lost by the fact that so many of our radio programs have practically no value at all. By way of educating the general public, I believe, that a great deal could be done."

Miss Lois Crawford, director of Radio Station KFGQ, Boone, Iowa, operated by the Biblical College and Associated Institutions, reports that there has been a decided increase in their mail response to programs broadcast that are known as the half hour of Daily Bible Teaching. This station

enjoys a large radio audience among the Scandinavian Lutherans. Some use of the radio equipment has been made for correcting speech defects, using it as a public address system, rather than broadcasting the material.

RADIO SERVICE

AT

THE STATE UNIVERSITY OF IOWA.

The State University of Iowa has reports indicating that radio broadcasting of information and college courses was started as early as 1911. This work was done with transmitting equipment licensed under the call letters 9YA. The State University of Iowa was fortunate in being able to obtain some of the first power vacuum tubes ever manufactured, and radio telephone broadcasting on a regular schedule basis dates from the time of experimental work with radio telephone transmission using these tubes; that is about 1918 or 1919. This work was done under the station call letters 9YA before broadcasting station call letters were issued. To our knowledge this was the first radio telephone station west of the Mississippi river. Improvements in radio transmission were rapidly made and the State University continued to expand its radio broadcasting equipment keeping pace with all new developments. When the first licenses were issued for radio telephone broadcasting stations, the call letters WHAA were assigned. These were later changed to WSUI at our request.

In order to keep pace with every development it was decided in 1923 to purchase the best possible radio telephone transmitter then available. Western Electric I-B equipment of 500 watts was installed bearing the serial number 202 indicating that it was the second unit of this type to be built.

Since the installation of this equipment every new development has been adopted and every suggestion of the Federal Radio Commission carried out.

The transmitter at Station WSUI now follows the latest design in radio engineering and incorporates direct crystal control of frequency, 100% modulation at a low level, the use of the most modern equipment throughout, including for example both condenser and ribbon type microphones. Two studios are available besides innumerable permanent connections to remote control positions. Practically all university buildings, Field House, and Stadium, serve the station with programs over our permanent network of connections.

As regards frequency assignments, transmission was first accomplished on a wave length of approximately 475 meters, (the term kilocycles was not then in use.) Immediately following the issuance of radio broadcasting station call letters in 1921, Station WSUI (then WHAA) operated on a frequency of 830 kilocycles. When the 500 watt Western Electric equipment was installed in 1923, a frequency of 620 kilocycles was assigned. This was changed to 710 kilocycles on June 15, 1927. Other changes in frequency assignments are as follows:

To 630 kilocycles on November 1, 1927

To 580 kilocycles on November 11, 1928

To 600 kilocycles on November 30, 1929

To 880 kilocycles, our present frequency, December 3, 1929

Recently the Federal Communications Commission granted WSUI an increase of daytime power from 500 to 1000 watts and unlimited time. With the beginning of the second semester of the current academic year Station WSUI

will be on the air twelve hours daily from Monday to Saturday with University vesper services on Sunday presenting a program primarily educational in character. This program includes: five courses directly from the classroom; two courses from the studio; radio aids for high schools; a speech clinic of the air; radio child study club programs; programs by state organizations such as the Iowa Federation of Women's Clubs, the State Medical Society, the Iowa Congress of Parents and Teachers, the State Teachers Association, the State Department of Public Instruction, the American Legion and Legion Auxiliary, the D.A.R., the Iowa Tuberculosis Association, and several others; and educational programs contributed by more than twenty departments of the University in such fields as music appreciation, poetry appreciation, television, science, physical education, art, literature, history, drama, speech, foreign language, household management, engineering dental hygiene, social welfare, psychology, and education. In addition athletic events, University convocations, conference lectures, University news, Orchestral, choral, and band music are regularly broadcast.

Through cooperation with Station WOI at Iowa State College certain programs are made available over both stations.

The staff at Station WSUI consists of one full time director, one full time program director, one full time operator, one full time production manager, one full time secretary, two part time announcers, and two part time operators. The program manager has charge of a class in "Speech in Radio" from which program managers, continuity writers, and announcers for certain programs are recruited.

Submitted by: Bruce E. Mahan
Director, Radio WSUI

RADIO SERVICE

AT

IOWA STATE COLLEGE

1. Historical Background.

History of WOI

Iowa State College was actively engaged in the radio field for many years before the advent of broadcasting. The Electrical Engineering Department, under Professor F. A. Fish, maintained a highly efficient amateur station operating under the call letters 9YI. This station was in operation prior to 1914. The 240 cycle note of the synchronous spark transmitter was well known throughout the middlewest before the beginning of voice transmission.

When the first regular broadcasts from KDKA had demonstrated the possibilities of this means of communication, the Electrical Engineering Department determined to construct a broadcasting station. Mr. Harmon B. Deal, a graduate of Massachusetts Institute of Technology, was chosen to supervise the project. He was assisted by one of the engineering students, A. G. Woolfries, now Chief Announcer of the station. Early in October 1921 work was begun on a fifty watt set - a "super-power" outfit for the time. Plans were later changed to increase this output to 100 watts. With this power, the transmitter first went on the air the evening of November 21, 1921, using a wave length of 375 meters and the call letters 9YI. The following April (1922) the call WOI was assigned by the Radio Division of the Department of Commerce.

Almost immediately upon its inception, the station inaugurated a schedule of service reports consisting largely of weather forecasts and live-

stock market news. The forecasts were sent by commercial wire from the United States Weather Bureau.

The market reports were copies from a long wave code broadcast by NAJ, the government station at the Naval Training School, near Chicago. This service from NAJ was continued for nearly three years, after which it was supplanted by commercial telegraph reports. In July, 1926, the United States Department of Agriculture leased wire service was made available.

It is interesting to remember that at this time, all broadcasting stations operated on a wave length of 360 meters - in theory at least. Actually, it was the custom for stations to deviate slightly above or below this channel according to the severity of interference. However, all government reports were transmitted on 485 meters. Thus, when a weather report was to be given, both stations and listeners changed to the longer wave; afterward, scrambling back to 360 meters for the balance of the program.

The 100 watt transmitter proved inadequate to cover the state, so plans were made for a more powerful set. In December, 1923, WOI put into service a 500 watt transmitter - again the "last word" in equipment and power: This outfit gave a fair coverage of the central portion of the state, and was heard in all parts of Iowa under favorable conditions. A small studio was secured - the "new" double button microphones were installed - the schedule was expanded - WOI rapidly forged to the front in midwest radio circles.

Constant expansion within the station soon brought a demand for additional room for studio and transmitter. As a result, a large laboratory adjoining the original quarters was made available. In 1924, this was

partitioned into a suite of rooms and the studio moved to its present location. Late the same year, a new 500 watt transmitter was put into service. Provision was made for increasing this power to 750 watts when the necessary permission had been obtained. This permission was forthcoming in August, 1925.

During this time, WOI had far outgrown its original function as an experiment of the Electrical Engineering Department. The station was re-organized in 1925 as a part of the Iowa State College and operated from funds supplied by the Agricultural Extension Service, Engineering Extension Service, and from General College funds, under the direction of Professor D. C. Faber, Director of Engineering Extension. Professor W. I. Griffith was named as Program Director, while Professor F. A. Fish remained in charge of the technical side. Within a year, this set-up was simplified by placing the entire station under the direction of Professor Griffith. The following year, 1926, the importance of the station's market news service was recognized and augmented when the U.S.D.A. installed a leased wire office to supply a comprehensive service to livestock market information. This service, together with a program of music, dramatics, talks, athletic events, and the like gave the station a distinctive program which appealed to a large group of listeners.

WOI was assigned a frequency of 1110 kilocycles in January of 1925. It soon became apparent that the effective coverage area of the station had been materially reduced. To offset this, a 5,000 watt transmitter was designed and built by the station staff, headed by Mr. Ralph Knouf, an Iowa State College graduate who had been employed by the General Electric Company. The new transmitter went into operation in January, 1927. Again

WOI boasted one of the most powerful and up-to-date sets in the country. Automatic crystal control of the frequency was one feature which then was used by only eight other stations. In June, 1927, another change in frequency put WOI on the 1130 k.c. channel. This high frequency was made still more undesirable by severe interference from nearby stations on adjacent channels.

The general re-assignment which took place in November, 1928, brought a welcome change to WOI. The station was placed on the 560 k.c. channel to share daylight time with KFEQ, St. Joseph, Missouri. Although the power was reduced to 3,500 watts, the resultant coverage was vastly superior to that obtained on the higher frequency. Relations with KFEQ were most friendly, but that station, of commercial necessity, sought a full time license. The latest change, made in November, 1929, licensed the station to operate with 5,000 watts power on the 640 k.c. channel. This is the frequency assigned to KFI, Los Angeles, and to WAIU, Columbus, Ohio. WOI operates, as a result, only during daylight hours. While a certain amount of night time would be acceptable, it is felt that the present assignment is generally satisfactory and every effort is being made to utilize these facilities to the utmost.

II. Present Status

The WOI station has developed a program of service reports for the farmers and shippers of the state. The reports deal with quotations on live stock, grain, poultry, and dairy products, as well as weather reports. Since Iowa is the principal live stock producing state in the Union, the markets are of great value to the listeners. The market schedule is as

follows: (The time of certain features changes somewhat during May to October when Chicago and other eastern markets operate on daylight saving time.)

WOI MARKET BROADCAST SCHEDULE

- 6:45 a.m. - Weather forecasts; livestock receipts.
- 8:50 a.m. - First Chicago Hog flash; receipts.
- 9:30 a.m. - Principal live stock markets on hogs, cattle and sheep, and tone of the market as reported by the Interior Packers of Iowa and southern Minnesota.
- 10:30 a.m. - Weather; report of the Interior Packers of Iowa and southern Minnesota; livestock, including Chicago hogs, cattle, and sheep, St. Joseph, Kansas City, Omaha, Sioux City and St. Paul; Grain and Dairy Products, including Chicago eggs, butter and live poultry, and New York eggs and butter.
- 12:15 p.m. - Weather; Chicago summary; advance estimates; Mid-west hog market review, including interior markets and packing plants.
 - 12:30 - Cattle summary
 - 12:40 - Sheep summary
- 1:30 p.m. - Weather; Livestock, including advance estimates and closing summaries from mid-west circuit and interior markets; closing grain and New York Poultry.

HIGHLIGHTS OF RADIO STATION WOI
Iowa State College
640 k. c., 5,000 watts

Monday, March 18, '35.

- 7:00 a.m. - Matins.
- 7:20 a.m. - Program Parade.
- 7:30 a.m. - News Notes.
- 7:40 a.m. - The Music Shop.
- 9:00 a.m. - "Lost Horizon" - Ruth Galvin.
- 10:00 a.m. - Homemakers - Mrs. Henry Ness.
- 11:00 a.m. - Class in Agriculture.
- 12:00 noon - "Honey Production" - Prof. F. B. Paddock.
- 12:45 p.m. - "Livestock Feeding Problems" - Prof. C. C. Culbertson.
- 1:00 p.m. - Moeller's Old Timers.
- 2:30 p.m. - Everyday Psychology.
- 3:00 p.m. - Masterwork: "Scheherezade Suite" - Rimsky Korsakoff.
- 3:30 p.m. - Short Story.
- 4:00 p.m. - Grinnell Hour.

Tuesday, March 19, '35.

- 7:00 a.m. - Matins.
- 7:30 a.m. - News Notes.
- 9:00 a.m. - "Lost Horizon" - Ruth Galvin.
- 10:00 a.m. - Homemakers - Mrs. Henry Ness.
- 11:20 a.m. - Class in English.
- 12:00 noon - Agricultural Extension - Dir. R. K. Bliss.
- 12:45 p.m. - "Unpaid Farm Taxes" - Prof. R. C. Bentley.

- 1:10 p.m. - State Department of Agriculture.
- 2:30 p.m. - Child Study Club: Sex Education.
- 3:00 p.m. - Masterwork.
- 3:30 p.m. - Magazine Rack.
- 4:00 p.m. - Junior Academy of Science.
- 4:30 p.m. - Harmonic Trio.
- 5:00 p.m. - Scanning the News - Robert Murray.

Wednesday, March 20, '35.

- 6:45 a.m. - Service reports.
- 7:20 a.m. - Program Parade.
- 7:40 a.m. - The Music Shop.
- 9:00 a.m. - "Lost Horizon" - Ruth Galvin.
- 10:00 a.m. - Homemakers - Mrs. Henry Ness.
- 11:20 a.m. - Class in Economics.
- 12:00 noon - "Garden Features" - Prof. P. H. Elwood.
- 12:45 p.m. - Poultry Problems - Dr. E. W. Henderson.
- 1:10 p.m. - Recital - Harry Christiansen.
- 2:00 p.m. - Federated Women's Clubs.
- 2:30 p.m. - Child Study Club: Home and Community.
- 3:00 p.m. - Masterwork.
- 3:30 p.m. - Far Lands.
- 4:00 p.m. - "Hand Infections" - R. R. Harris, M.D.
- 4:30 p.m. - Child Study Club: Life Philosophy.

Thursday, March 21, '35.

- 7:00 a.m. - Matins.
- 7:40 a.m. - Music Shop.
- 9:00 a.m. - "Lost Horizon" - Ruth Galvin.

- 9:50 a.m. - State Basketball Tournament - First Round.
12:45 p.m. - Farm Crops Question Box.
1:10 p.m. - "Bird Neighbors" - B. V. Travis.
1:50 p.m. - State Basketball Tournament - First Round.
5:15 p.m. - Rythm Review.

Friday, March 22, 1935.

- 6:45 a.m. - Service Reports.
7:20 a.m. - Program Parade.
7:40 a.m. - The Music Shop.
9:00 a.m. - "Lost Horizon" - Ruth Galvin.
10:00 a.m. - Homemakers - Mrs. Henry Ness.
11:20 a.m. - Science Day Talk.
12:45 p.m. - "Legume Inoculation" - Dr. R. H. Walker.
1:10 p.m. - Book Review - Frances Warner.
2:05 p.m. - Vocational Agriculture Teachers.
2:25 p.m. - High School Basketball Tournament - Second Round.
4:30 p.m. - Orchestra Program.

Saturday, March 23, 1935.

- 6:45 a.m. - Service Reports.
7:00 a.m. - Matins.
7:30 a.m. - News Notes.
7:40 a.m. - The Music Shop.
9:00 a.m. - "Lost Horizon" - Ruth Galvin.
10:00 a.m. - P.T.A. Program.
11:00 a.m. - Vocational Education.
11:45 a.m. - Public School Forum.
12:15 p.m. - Market Summary.

1:00 p.m. - Boys and Girls Hour.

1:20 p.m. - State Basketball Tournament - Semi-final round.

3:30 p.m. - Rythm Review.

Many other interesting features are given by members of the Iowa State College faculty and distinguished visitors to our campus. Last year - Mrs. Henry Ness, Director of the Homemakers Half Hour, received 170,160 requests for copies of manuscripts that had been presented over WOI on her program.

WOI cooperates with all public service groups and welfare organizations that have a forward looking educational program. We have cooperated by broadcasting programs sponsored by the following organizations:

1. State officers for administrative reasons.
2. Iowa State Teachers Association.
3. Iowa Congress of Parents and Teachers.
4. Women's Federated Clubs.
5. American Legion.
6. American Legion Auxiliary.
7. Veterans of Foreign Wars.
8. Veterans of Foreign Wars Auxiliary.
9. Iowa Farm Bureau Federation.
10. Iowa Grange Association.
11. Iowa Association for the Blind.
12. American Red Cross.
13. Iowa State Medical Society.
14. Boy Scouts of America.
15. Iowa Board of Health.
16. Iowa State Police Department.
17. Iowa Tuberculosis Association.

While WOI is rated as a daylight station and must cease broadcasting at sunset, it was on the air for 2,516 hours and 10 minutes during 1934.

Many of the WOI listeners live on farms. The following Table No. I shows the distribution by counties of the radio receiving sets on farms of Iowa for 1933. Data taken from assessors reports as of record January 1, 1934 and supplied through the courtesy of Charles D. Reed, Director of Iowa Weather and Crop Bureau. At the top of the table it will be observed a comparison of the data year by year since 1926. There was a gradual rise in the number of farms reporting receiving sets from 20.84% in 1926 to 47.81% in 1931. The years 1932 and 1933 showed a reduction, probably due to the general financial depression. Many farmers did not have funds with which to keep the batteries charged. The last report, January 1, 1934, shows some increase (33.43) over the number reported the preceding year. Absolute accuracy is not claimed for these data for the reason that the friendly assessor may not have listed all sets for taxation purposes - especially, if it were reported as an old set and of but little value. This does not show the number of sets installed on farms during the past fifteen months since January 1, 1934.

TABLE I

| Summary for State | Total Radio Sets on Farms | Total Farms in State (3 acres or more) | Percentage of Farms Having sets | Average of 1 Radio Set to each |
|-------------------|---------------------------------|--|---------------------------------------|--------------------------------------|
| Jan. 1, 1934 | 71,467 | 213,769 | 33.43 | 2.99 farms |
| Jan. 1, 1933 | 69,363 | 212,236 | 32.68 | 3.26 " |
| Jan. 1, 1932 | 97,938 | 212,246 | 46.14 | 2.16 " |
| Jan. 1, 1931 | 102,315 | 213,993 | 47.81 | 2.09 " |
| Jan. 1, 1930 | 97,286 | 208,506 | 46.65 | 2.14 " |
| Jan. 1, 1929 | 86,192 | 210,310 | 40.95 | 2.44 " |
| Jan. 1, 1928 | 76,032 | 210,108 | 36.18 | 2.76 " |
| Jan. 1, 1927 | 65,466 | 211,637 | 30.93 | 3.23 " |
| Jan. 1, 1926 | 43,968 | 210,899 | 20.84 | 4.79 " |

| County | No. Radio Sets on Farm | No. of Farms | Per Cent of Farms Having Sets |
|-------------|------------------------|--------------|----------------------------------|
| Adair | 770 | 2196 | 35.06 |
| Adams | 755 | 1634 | 46.21 |
| Allamakee | 628 | 2217 | 28.33 |
| Appanoose | 302 | 2390 | 12.64 |
| Audubon | 819 | 1811 | 45.22 |
| Benton | 1024 | 2557 | 40.05 |
| Black Hawk | 934 | 2395 | 39.00 |
| Boone | 1024 | 2463 | 41.58 |
| Bremer | 622 | 2070 | 30.05 |
| Buchanan | 560 | 2344 | 23.89 |
| Buena Vista | 781 | 2038 | 38.32 |
| Butler | 623 | 2233 | 27.90 |
| Calhoun | 801 | 1998 | 40.09 |
| Carroll | 785 | 2208 | 35.55 |
| Cass | 1029 | 2187 | 47.05 |
| Cedar | 809 | 2244 | 36.05 |
| Cerro Gordo | 717 | 1988 | 36.07 |
| Cherokee | 947 | 1839 | 51.50 |
| Chickasaw | 610 | 2011 | 30.33 |
| Clarke | 300 | 1505 | 26.58 |
| Clay | 858 | 1851 | 46.35 |
| Clayton | 798 | 3055 | 26.12 |
| Clinton | 982 | 2801 | 35.06 |
| Crawford | 977 | 2575 | 37.94 |
| Dallas | 836 | 2348 | 35.60 |
| Davis | 294 | 1950 | 15.08 |
| Decatur | 443 | 2121 | 20.89 |
| Delaware | 554 | 2253 | 24.59 |
| Des Moines | 614 | 1889 | 32.50 |
| Dickinson | 434 | 1223 | 35.57 |

TABLE I (cont)

| <u>County</u> | <u>No. Radio Sets on Farm</u> | <u>No. of Farms</u> | <u>Per Cent of Farms Having Sets</u> |
|---------------|-------------------------------|---------------------|--------------------------------------|
| Dubuque | 592 | 2286 | 25.90 |
| Emmet | 483 | 1232 | 39.20 |
| Fayette | 819 | 3073 | 26.65 |
| Floyd | 629 | 1847 | 34.06 |
| Franklin | 882 | 2141 | 41.24 |
| Fremont | 631 | 1772 | 35.61 |
| Greene | 752 | 2077 | 36.21 |
| Grundy | 633 | 1775 | 35.66 |
| Guthrie | 684 | 2329 | 29.37 |
| Hamilton | 937 | 2227 | 42.07 |
| Hancock | 752 | 1979 | 38.00 |
| Hardin | 607 | 2182 | 27.82 |
| Harrison | 818 | 2782 | 29.40 |
| Henry | 684 | 1855 | 36.87 |
| Howard | 473 | 1728 | 27.37 |
| Humboldt | 498 | 1479 | 33.67 |
| Ida | 551 | 1447 | 38.08 |
| Iowa | 689 | 2173 | 31.71 |
| Jackson | 609 | 2334 | 26.09 |
| Jasper | 1033 | 2935 | 35.20 |
| Jefferson | 474 | 1834 | 25.85 |
| Johnson | 817 | 2627 | 31.10 |
| Jones | 684 | 2278 | 30.03 |
| Leokuk | 671 | 2552 | 26.29 |
| Kossuth | 1037 | 3058 | 33.91 |
| Lee | 558 | 2028 | 27.51 |
| Linn | 989 | 3405 | 29.05 |
| Louisa | 403 | 1380 | 29.20 |
| Lucas | 361 | 1728 | 20.89 |
| Lyon | 735 | 1860 | 39.52 |
| Madison | 683 | 2265 | 30.15 |
| Mahaska | 914 | 2713 | 33.69 |
| Marion | 565 | 2369 | 23.85 |
| Marshall | 1031 | 2259 | 45.64 |
| Mills | 698 | 1615 | 43.22 |
| Mitchell | 588 | 1742 | 33.75 |
| Monona | 668 | 2185 | 30.57 |
| Monroe | 307 | 1700 | 18.06 |
| Montgomery | 868 | 1612 | 53.85 |
| Muscatine | 615 | 1712 | 35.92 |
| O'Brien | 886 | 1929 | 45.93 |
| Osceola | 451 | 1316 | 34.27 |
| Page | 874 | 2215 | 39.46 |
| Palo Alto | 551 | 1856 | 29.69 |
| Plymouth | 1036 | 2850 | 36.35 |
| Pocahontas | 750 | 2030 | 36.95 |
| Polk | 1019 | 2686 | 37.94 |
| Pottawattamie | 1566 | 3706 | 42.26 |

TABLE I (cont)

| <u>County</u> | <u>No. Radio Sets on Farm</u> | <u>No. of Farms</u> | <u>Per Cent of Farms Having Sets</u> |
|---------------|-------------------------------|---------------------|--------------------------------------|
| Poweshiek | 825 | 2181 | 37.84 |
| Ringgold | 506 | 1962 | 25.79 |
| Sac | 1005 | 1967 | 51.09 |
| Scott | 1016 | 2196 | 46.27 |
| Shelby | 954 | 2162 | 44.13 |
| Sioux | 732 | 2939 | 25.78 |
| Story | 888 | 2254 | 39.40 |
| Tama | 933 | 2654 | 35.15 |
| Taylor | 751 | 2220 | 33.83 |
| Union | 560 | 1690 | 33.14 |
| Van Buren | 405 | 1982 | 20.43 |
| Wapello | 294 | 1965 | 14.96 |
| Warren | 616 | 2409 | 25.57 |
| Washington | 797 | 2290 | 34.80 |
| Wayne | 415 | 1916 | 21.66 |
| Webster | 999 | 2564 | 38.96 |
| Winnebago | 438 | 1615 | 27.12 |
| Winneshiek | 946 | 2793 | 33.87 |
| Woodbury | 849 | 3073 | 27.63 |
| Worth | 447 | 1527 | 29.27 |
| Wright | 905 | 1953 | 46.34 |

Distribution of percentages of gain or loss by counties in the number of Radio Sets on farms. Jan. 1, 1934 as compared with Jan. 1, 1933.

Gain 0-4.9% in 48 counties

Gain 5-9.9% in 12 counties

Gain 10-14.9 in 1 county

Total Gain 61.

Loss 0-4.9% in 34 counties

Loss 5-9.9% in 4 counties

Total loss 38.

Average gain 0.75% in 99 counties.

In October 1934, WOI appeared at a hearing in Washington, D. C., before the Federal Communications Commission in defense of its rights to continue to use its present facilities of 5,000 watts power, during daylight hours, on the 640 k.c. frequency. The following information (Table II) was submitted in evidence at this hearing. The table shows the distribution in the 99 counties and 8 neighboring states of the 21,816 responses and signatures on petitions received from October 8 - 18 inclusive. There are 72 more signatures without legible addresses.

These responses of signatures on petitions, or letters, were filed with WOI in a protest of the proposal to assign the 640 k.c. frequency to any station, or stations, which would result in interference or curtailment to any degree with the WOI program.

The Federal Communications Commission has not yet rendered a decision on this question, but this table is submitted in this report as some evidence of the area covered by WOI and the number of listeners sufficiently interested to take the trouble to express an opinion.

TABLE NO. II

| | | | |
|-------------|-----|---------------|------|
| Adair | 216 | Howard | 47 |
| Adams | 77 | Humboldt | 106 |
| Allamakee | 46 | Ida | 93 |
| Appanoose | 46 | Iowa | 121 |
| Audubon | 57 | Jackson | 4 |
| Benton | 188 | Jasper | 324 |
| Black Hawk | 705 | Jefferson | 49 |
| Boone | 458 | Johnson | 415 |
| Bremer | 135 | Jones | 47 |
| Buchanan | 110 | Keokuk | 173 |
| Buena Vista | 220 | Kossuth | 848 |
| Butler | 156 | Lee | 72 |
| Calhoun | 268 | Linn | 592 |
| Carroll | 92 | Louisa | 38 |
| Cass | 634 | Lucas | 117 |
| Cedar | 69 | Lyon | 25 |
| Cerro Gordo | 699 | Madison | 107 |
| Cherokee | 99 | Mahaska | 242 |
| Chickasaw | 69 | Marion | 353 |
| Clarke | 81 | Marshall | 442 |
| Clay | 160 | Mills | 25 |
| Clayton | 96 | Mitchell | 165 |
| Clinton | 25 | Monona | 77 |
| Crawford | 115 | Monroe | 60 |
| Dallas | 410 | Montgomery | 73 |
| Davis | 17 | Muscatine | 85 |
| Decatur | 117 | O'Brien | 212 |
| Delaware | 79 | Osceola | 37 |
| Des Moines | 42 | Page | 36 |
| Dickinson | 412 | Palo Alto | 122 |
| Dubuque | 49 | Plymouth | 78 |
| Emmet | 261 | Pocahontas | 220 |
| Fayette | 256 | Polk | 1222 |
| Floyd | 254 | Pottawattamie | 36 |
| Franklin | 148 | Poweshiek | 172 |
| Fremont | 14 | Ringgold | 89 |
| Greene | 184 | Sac | 324 |
| Grundy | 91 | Scott | 53 |
| Guthrie | 100 | Shelby | 30 |
| Hamilton | 331 | Sioux | 123 |
| Hancock | 108 | Story | 856 |
| Hardin | 393 | Tama | 215 |
| Harrison | 61 | Taylor | 31 |
| Henry | 58 | Union | 131 |

TABLE NO. II (cont.)

| | | | |
|------------|------|--------------|-----|
| Van Buren | 70 | Winnebago | 100 |
| Wapello | 170 | Winneshiek | 85 |
| Warren | 217 | Woodbury | 227 |
| Washington | 176 | Worth | 127 |
| Wayne | 68 | Wright | 190 |
| Webster | 457 | | |
| | | | |
| Illinois | 106 | Nebraska | 248 |
| Kansas | 50 | North Dakota | 8 |
| Minnesota | 2093 | South Dakota | 217 |
| Missouri | 197 | Wisconsin | 66 |

These responses and signatures on petitions were filed with WOI in protest of the proposal to assign the 640 k.c. frequency to any station, or stations, which will result in interference, or curtailment to any degree of the WOI program.

III. Trends

We believe, judging from correspondence with listeners and conversations with visitors to the station, that the public is rather disgusted with certain advertising on radio programs. The chief reason for this is because this advertising is often reported to be untrue, or overstated, and for the additional reason that many of the programs are lacking in culture and refinement.

This means that the educational stations that depend for their support on taxation, or funds other than advertising, are in a strategic position in winning the good will of listeners. We believe, that more attention is being given by educational stations to the content of the program material and that it be well presented.

IV. Previous proposals for reorganization

It would be very desirable from many standpoints to be able to use WOI during evening hours, but if such a privilege were granted it would have to be on a different frequency than the one now being used (640 k.c.). This might result in being assigned to a frequency on which there would be interference in a reduction of power to the extent that the WOI signals could not be heard with reliability in all parts of the state. For this reason, it has seemed desirable to make the best use possible of the facilities now available.

We have cooperated with WSUI in broadcasting material released by the Iowa Child Welfare Research Station of Iowa City. Last year 162 listening groups of at least ten ladies in each group used this service. We think this is typical of many other programs that might be broadcast by WOI that originate on the University campus.

It would also be highly desirable to broadcast material for the purpose of supplementing the elementary and high school classroom instruction. This could be done by means of remote control from Iowa State Teachers College at Cedar Falls.

It would add much to the effectiveness of the WOI program and the service it is able to render to the state if it were possible to be connected by remote control with a studio in the state capitol. This could be used by the administrative heads of departments for the discussion of timely topics by members of the general assembly and for the use of distinguished visitors to Des Moines, who could, and would, discuss topics of general interest to Iowa.

V. Summary and Applications.

WOI is owned and operated as a part of Iowa State College from funds arising from taxation. It has tried to adopt a policy of being of service. It has drawn up the following statement of purpose and policy for the guidance of members of its faculty in preparing material for broadcast.

To Members of the Faculty:

In order that our radio station, WOI may be of the widest possible service to the people of Iowa and serve the best interests of the College, we are submitting the following statements and are asking for your continued cooperation and constructive criticism.

I. Purpose of the station.

- (a) To broadcast educational material by recognized authorities in their special field.
- (b) To broadcast market and weather reports.
- (c) To broadcast enough high class entertainment consisting of musical numbers, plays, debates, athletic events, etc. to add interest to our programs.

II. Policy of the station.

- (a) Station WOI, operated by the Iowa State College, is the station of the people of Iowa for the thousands of radio listeners in the state and elsewhere.

Station WOI is one of the voices of the Iowa State College and care is taken that the programs broadcast are such that the College is willing to be responsible for them. The station does not broadcast political, religious, fraternal or other propaganda on controversial subjects unless the lecturer is a member of the faculty or the lecture is being given under the auspices of some recognized division or organization operating under the College direction. The station broadcasts only special services which are reliable and educational and entertainment numbers which are wholesome and give to our programs a distinctive Iowa State College atmosphere. The time of the station is not for sale, directly or indirectly.

Station WOI endeavors to present programs which are distinctive of a state college and worthy of an educational institution. By this type of program we seek to be of service. (b) The station does not broadcast on legal holidays or other days when weather and market reports are not available unless a special program of outstanding importance is available. (c) The station does not broadcast an entertainment or program on the campus to which an admission is charged without the sanction of those responsible for the finances of the enterprise. (d) The station gives publicity to coming events such as short courses, summer sessions and special activities of the college when requested to do so and a copy of the announcement is furnished.

III. Points to be considered in determining whether or not a program is to be broadcast.

- (a) Has the material sufficient educational value or entertainment to be broadcast.
(b) Is the material of sufficient general interest to insure that a large number of those who "tune in" will continue to listen to the program?
(c) Does the material lend itself to broadcasting or does the success of the program depend upon charts, lantern slides or stage effects?

IV. Suggestions to the talent.

- (a) Response from the public indicates that the lecture from the studio should be from 10 to 15 minutes in length.
(b) The lecture should be written. Many requests for mimeograph copies of addresses are received.
(c) Talent must arrange to arrive at the studio at least five minutes before the hour scheduled, and hand to the announcer the complete program or title of address as it should be announced. Talent does not disappoint or keep even a small physical audience waiting. A very large radio audience is quickly lost unless the program starts at the appointed time and continues without interruption to the end.

Advance notice.

- (a) To insure correct publicity in radio magazines and in the columns of the daily papers, programs must be completed at least three weeks in advance.
- (b) A detailed list of the musical selections, authors and composers is desired at least one week in advance in order that the announcer may do his work most effectively.
- (c) Some information is very effective at certain seasons of the year and of less value at other times. Help us get timely material on the programs.

VI. Recommendations.

1. That WOI seek in every legitimate way possible to increase its efficiency and effectiveness by cooperating with all other agencies in broadcasting programs worthy of a college station.
2. That it enlarge its source of program material by remote control connections in other educational centers as may be possible.
3. That it develop an adequate program for schools as soon as possible. This program should be prepared for the purpose of supplementing the work now being done by the teachers in the elementary and high schools of the state.

Submitted by: W. I. Griffith
Director, Radio WOI

III. Trends.

From the comment just noted and from the reports from WSUI and WOI it is quite evident that radio has made some rapid strides as a tool for disseminating information. Radio receiving sets are being installed quite rapidly in the schools of Iowa and we are of the opinion that the installation will progress even more rapidly since school authorities feel there is ample program material to warrant the investment in adequate receiving apparatus.

IV. Previous proposals for reorganization.

We are quite sure that arrangements could be made with both the commercial and educational stations of the state to be of service to the Junior Colleges, Colleges and Universities of Iowa, for broadcasting frequent programs of educational and entertainment value, and that this would be of service to the general public, as well as to college students.

V. Summary and applications.

This report is intended to supplement the discussion on radio found on pages 465 - 475 inclusive of the September 1934 report of the Iowa State Planning Board.

At a meeting of the National Association of Educational Broadcasters held at Kansas City in 1934, a resolution was adopted to the effect that the Federal Communications Commission "allocate to recognized Institutions of higher learning operating non-commercial broadcasting stations -- sufficient facilities to adequately serve the territory which they normally serve in other capacities."

VI. Recommendations.

1. A closer degree of cooperation should be established between the Colleges and Universities, as well as other welfare groups, who have a constructive educational program, and the radio stations of the state - both educational and commercial.

2. That WSUI (State University of Iowa) be provided with sufficient funds to warrant the filing of an application with the Federal Communications Commission for a construction permit to build and maintain a transmitter of sufficient power, operating on a desirable frequency, to

insure satisfactory coverage of the entire state of Iowa.

3. If the suggestions in #2 are not possible either through lack of funds or inability of WSUI to secure adequate power and assignment of broadcasting frequency, comparatively free from interference, then sufficient funds should be made available so that WOI (Iowa State College) may make available to the citizens of Iowa, the following program material:

a. The most important items of the present WSUI program by means of remote control telephone wire connection, using microphones, amplifiers, and studio equipment now at Iowa City.

b. That a studio and necessary equipment be made available at Iowa State Teachers College, and connection be maintained by remote control so that program material originating in the Training School and at Iowa State Teachers College be broadcast directly to the elementary and high schools of the state.

c. That a studio and equipment be made available at the Capitol Building in Des Moines and connection be maintained by means of remote control telephone wires. This would make possible much valuable program material of interest to the general public and schools of the state. Such educational material might include -

1. Addresses by state officers.
2. Addresses by members of the General Assembly.
3. Addresses by distinguished visitors to Des Moines, as well as many high grade entertainment numbers of superior quality.

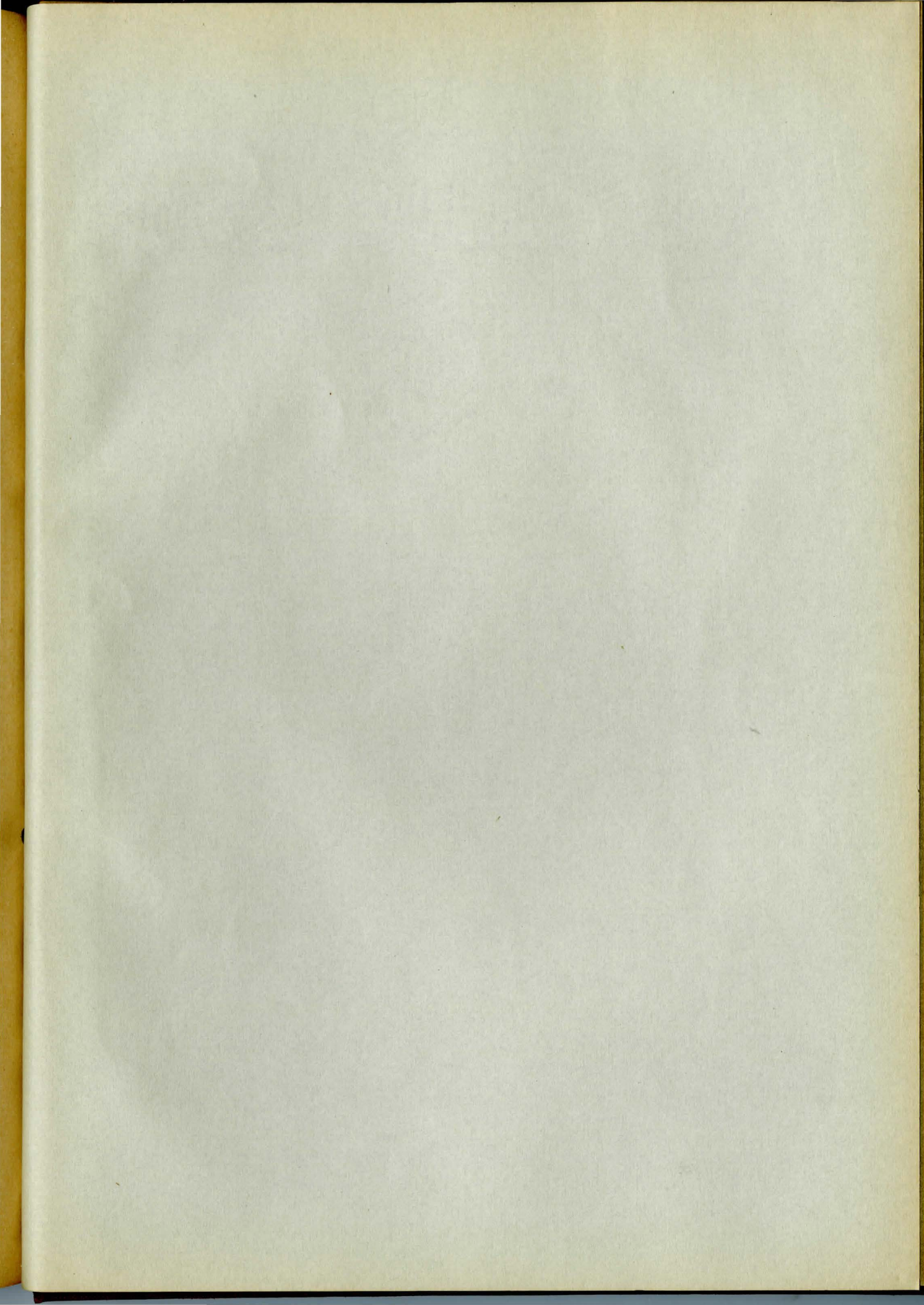
d. That the live stock, grain, poultry, dairy products, and weather service reports, as well as the most valuable parts of the present WOI

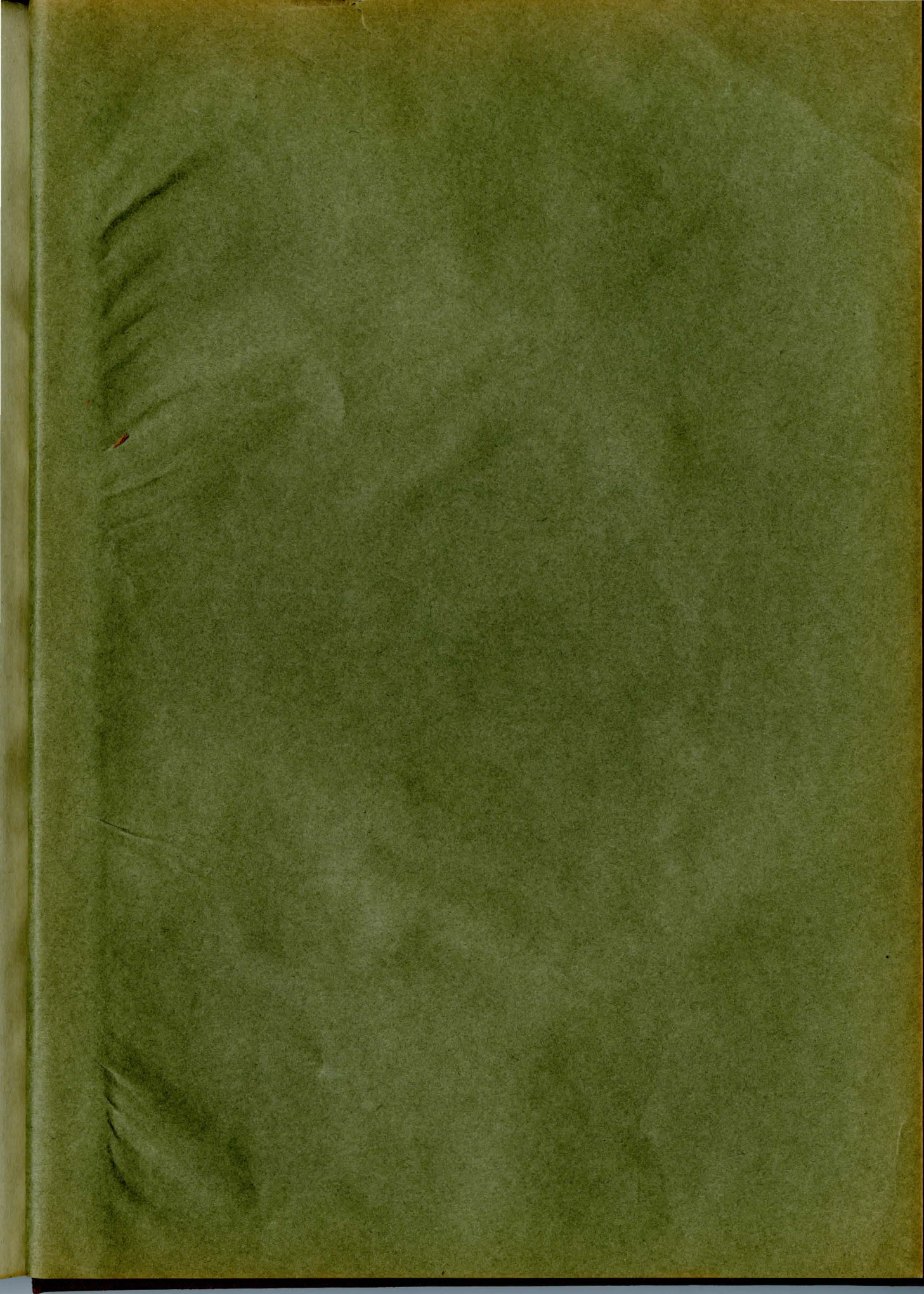
schedule be continued.

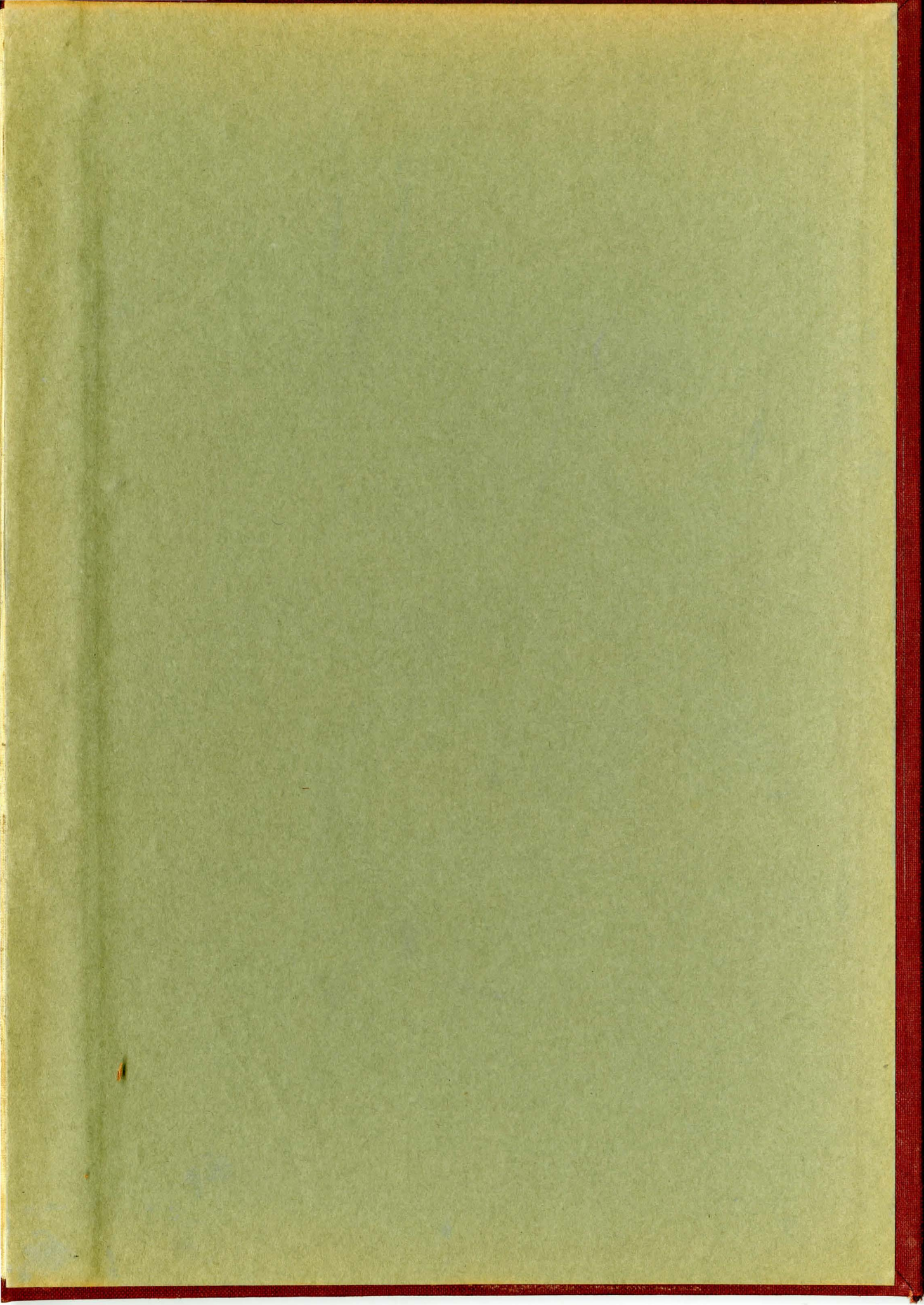
e. That it be made possible to establish remote control connections by telephone wires for the purpose of broadcasting outstanding events of great educational or entertainment significance.

Through the cooperation of agencies mentioned in a, b, c, d, and e, Iowa would then have an outstanding educational radio program.

WOI is now limited by the conditions of its license to daylight hours and cannot broadcast after sunset. The best way to get evening time is to have a strong demand for it from the public. This response would undoubtedly follow if a need for more time is demonstrated after a period of broadcasting a fine cooperative educational and cultural program as outlined above.







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