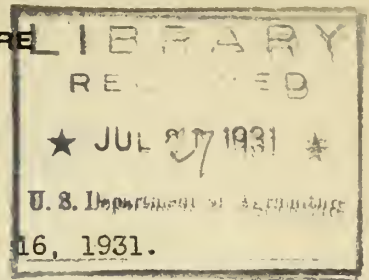


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Do not assume content reflects current scientific knowledge, policies, or practices.

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UNITED STATES DEPARTMENT OF AGRICULTURE
DIRECTOR OF EXTENSION WORK
WASHINGTON, D. C.



TO ALL EXTENSION DIRECTORS:

A new monthly radio extension feature will go on the air beginning Saturday, July 25. You will remember that I wrote to you in February with reference to establishing a series of radio programs about adult extension activities upon a basis somewhat similar to the National 4-H Radio Program which has been so well received. Practically all the extension directors who replied to that letter were favorable toward establishing an adult extension radio program. The new radio feature will be a part of the Land-Grant College Radio Hour broadcast always on the fourth Saturday of each month. The time will be from 12.30 to 1.30 p.m., eastern standard time.

As I outlined in my previous letter, the plan will be to have various members of the extension staff - county extension agents, specialists, and supervisors - explain what the service is doing to help farmers, and also to have farm men and women tell how the adoption of advanced methods of farming and home making have helped them. The United States Army Band will provide the music for the programs. An announcement of the program scheduled for July 25 will be sent to you within a few days. Copies of this announcement will be sent also to all of your extension workers.

In bringing before the microphone speakers who will represent all persons who either extend or benefit from the extension of scientific information applicable to the farm and the home, it is hoped that farm men and women in your State will become more familiar with the opportunities extension work gives them and perhaps be influenced to some degree in making greater use of such opportunities. It is hoped also that the programs will provide a medium for acquainting the State and county extension staffs with the problems facing agents in other regions and how these problems are being met.

We shall appreciate at any time suggestions for making these programs more interesting and instructive. It will be very helpful also if the announcement of the program can be given wide dissemination in your State through the medium of the press.

Very truly yours,

C. W. Warburton,
Director of Extension Work.

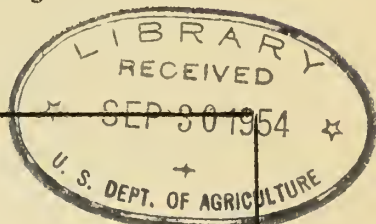
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LAND-GRANT COLLEGE RADIO HOUR

July 25, 1931

12.30 to 1.30, Eastern Standard Time*

Presented by the Association of Land-Grant Colleges and Universities in Cooperation with the United States Department of Agriculture, the United States Army Band, and the National Broadcasting Co.



PROGRAM

Science Goes to Work on the Farm.

T. B. Symons, Director of Extension Service, Maryland.

Science Goes to Work in the Home.

Jane S. McKimmon, State Home Demonstration Agent, North Carolina.

The National System of Agricultural Extension.

Hon. J. C. Ketcham, Member of Congress from Michigan.

Music by the United States Army Band.

*TIME OF BROADCAST. - 12.30 to 1.30 p.m., Eastern Standard Time; 11.30 a.m. to 12.30 p.m., Central Standard Time; 10.30 to 11.30 a.m., Mountain Standard Time; 9.30 to 10.30 a.m., Pacific Standard Time.

DISTRIBUTION: Copies of this announcement have been sent to all extension workers.

(O V E R)

NEW ADULT EXTENSION FEATURE

Announced for Land-Grant College Radio Program

Beginning Saturday, July 25, 1931

Of especial interest to extension workers will be the new extension feature of the Land-Grant College Radio Program broadcast on the fourth Saturday of each month. These programs will include a series of talks by extension agents, research workers, farmers, and farm women. They will tell how scientific facts are obtained through research and put to practical use on the farms and in the homes. The musical part of the programs is played by the United States Army Band. The first program containing the new adult extension feature will be broadcast on July 25. This monthly radio program will be planned to be of interest to adult extension workers, local leaders, and farm men and women. Get your local papers to announce the program. Tell others.

Stations on Network of the National Broadcasting Co. Scheduled to Carry Program

EASTERN STANDARD TIME - 12.30 to 1.30 p.m.

KDKA, Pittsburgh; WBZ, Springfield; WBZA, Boston; WGAR, Cleveland; WHAM, Rochester; WIOD, Miami; WFLA-WSUN, Clearwater; WJR, Detroit; WJAX, Jacksonville; WJZ, New York City; WLW, Cincinnati; WPTF, Raleigh; WRC, Washington; WRVA, Richmond; WSB, Atlanta.

CENTRAL STANDARD TIME - 11.30 a.m. to 12.30 p.m.

KFAB, Lincoln; KFYZ, Bismarck; KSTP, St. Paul; KPRC, Houston; KTHS, Hot Springs; KWK, St. Louis; KVOO, Tulsa; KYW, Chicago; WAPI, Auburn; WEBC, Superior; WFAA, Dallas; WDAF, Kansas City; WJDX, Jackson; WHO, Des Moines; WOC, Davenport; WOAI, San Antonio; WKY, Oklahoma City; WOW, Omaha; WMC, Memphis; WSM, Nashville; WSMB, New Orleans; WREN, Lawrence; WTMJ, Milwaukee.

MOUNTAIN STANDARD TIME - 10.30 to 11.30 a.m.

KOA, Denver; KSL, Salt Lake City.

PACIFIC STANDARD TIME - 9.30 to 10.30 a.m.

KFI, Los Angeles; KGO, Oakland; KGW, Portland; KOMO, Seattle; KHQ, Spokane; KPO, San Francisco; KTAR, Phoenix.

WATCH FOR LAND-GRANT COLLEGE RADIO HOUR

"Always the Fourth Saturday in Each Month"

(O V E R)

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LAND-GRANT COLLEGE RADIO HOUR

AUGUST 22, 1931

12:30 TO 1:30 P.M., EASTERN STANDARD TIME

Presented by the Association of Land-Grant Colleges and Universities in Cooperation with the United States Department of Agriculture, the United States Army Band, and the National Broadcasting Co.

PROGRAM

HOW COOPERATIVE EXTENSION WORK HAS IMPROVED DAIRYING
IN LA PORTE COUNTY.
O. W. Mansfield, County Agricultural Agent,
LaPorte, Ind.

HOW AN OLD VIRGINIA COUNTY ADOPTS NEW IDEAS.
Katherine Ragsdale, County Home Demonstration Agent, Powhatan, Va.

CONCERT BY THE UNITED STATES ARMY BAND:
March: 213th Coast Artillery, P.N.G. Larrimer.
Selection from: Romeo and Juliet Gounod.
Overture: Abu Hassan Weber.
Characteristic Morceau: Whispering Flowers Blon.
Hungarian Dances 7 and 8 Brahms.
March: On the Quarter Deck Alford.

RECENT DEVELOPMENTS IN EXTENSION WORK.
C. B. Smith, Chief, Office of Cooperative Extension Work, U. S. Department of Agriculture.

TIME OF BROADCAST.—12.30 to 1.30 p. m., Eastern Standard Time; 11.30 a. m. to 12.30 p. m., Central Standard Time; 10.30 to 11.30 a. m., Mountain Standard Time; 9.30 to 10.30 a. m., Pacific Standard Time.

DISTRIBUTION.—Copies of this announcement have been sent to all extension workers.

(OVER)

Listen In on Land-Grant College Radio Program

Saturday, August 22, 1931

POWERFUL WAVES of natural forces have been battering against the agricultural industry of our country in recent years. The depression, the drought, unemployment, huge surpluses of farm commodities, low prices, poor markets, and destructive insects have been responsible for most of the farm distress existing. Has extension work been successful in lessening the severity of these blows to rural prosperity? Dr. C. B. Smith says that it has. He will tell you why in his talk during the next Land-Grant College Radio Program. On this program will appear a county agent from LaPorte County, Ind., and a home demonstration agent from Powhatan County, Va. These agents will relate from their personal experiences how farm and home problems have been met in their counties. The United States Army Band will entertain with a concert. Mark August 22 on your calendar and tune in at 12.30 p.m., Eastern Standard Time. Ask your local newspapers to print announcements in the papers and inform your local leaders and all others whom you think will be interested in the program.

Stations on Network of the National Broadcasting Co. Scheduled to Carry Program

EASTERN STANDARD TIME - 12.30 to 1.30 p.m.

KDKA, Pittsburgh; WBZ, Springfield; WBZA, Boston; WGAR, Cleveland; WHAM, Rochester; WIOD, Miami; WFLA-WSUN, Clearwater; WJR, Detroit; WJAX, Jacksonville; WJZ, New York City; WLW, Cincinnati; WPTF, Raleigh; WRC, Washington; WRVA, Richmond; WSB, Atlanta.

CENTRAL STANDARD TIME - 11.30 a.m. to 12.30 p.m.

KFAB, Lincoln; KFYZ, Bismarck; KSTP, St. Paul; KPRC, Houston; KTHS, Hot Springs; KWK, St. Louis; KVOO, Tulsa; KYW-KFKX, Chicago; WAPI, Auburn; WEBC, Superior; WFAA, Dallas; WDAF, Kansas City; WJDX, Jackson; WHO, Des Moines; WOC, Davenport; WOAI, San Antonio; WKY, Oklahoma City; WOW, Omaha; WMC, Memphis; WSM, Nashville; WSMB, New Orleans; WREN, Lawrence; WTMJ, Milwaukee; WDAY, Fargo; WHAS, Louisville.

MOUNTAIN STANDARD TIME - 10.30 to 11.30 a.m.

KOA, Denver; KSL, Salt Lake City; KTAR, Phoenix.

PACIFIC STANDARD TIME - 9.30 to 10.30 a.m.

KFI, Los Angeles; KGO, Oakland; KGW, Portland; KOMO, Seattle; KHQ, Spokane; KPO, San Francisco; KFSD, San Diego.

WATCH FOR LAND-GRANT COLLEGE RADIO HOUR

"Always the Fourth Saturday in Each Month"

(O V E R)

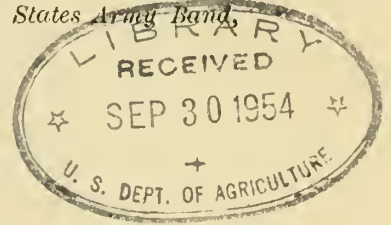
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LAND-GRANT COLLEGE RADIO HOUR

September 26, 1931

12:30 TO 1:30 P.M., EASTERN STANDARD TIME

*Presented by the Association of Land-Grant Colleges and Universities in Cooperation
with the United States Department of Agriculture, the United States Army Band,
and the National Broadcasting Co.*



PROGRAM

CONCERT.

The Homesteaders' Orchestra.

FARM WOMEN AND TOURISTS.

Martha Bonar, County Home Demonstration Agent.
Romney, W. Va.

CONCERT.

The Homesteaders' Orchestra.

MAKING THE RURAL HOME ATTRACTIVE.

George E. Boltz, County Agricultural Agent,
New Philadelphia, Ohio.

CONCERT.

The Homesteaders' Orchestra.

THE NATIONAL SYSTEM OF RESEARCH IN AGRICULTURE AND RELATED SCIENCES.

J. T. Jardine, Chief, Office of Experiment Stations,
and Assistant Director of Scientific Work,
U. S. Department of Agriculture.

TIME OF BROADCAST.—12.30 to 1.30 p. m., Eastern Standard Time; 11.30 a. m. to 12.30 p. m., Central Standard Time; 10.30 to 11.30 a. m., Mountain Standard Time; 9.30 to 10.30 a. m., Pacific Standard Time.

DISTRIBUTION.—Copies of this announcement have been sent to all extension workers.

(OVER)

TUNE IN SATURDAY, SEPTEMBER 26, 1931, FOR THE Land-Grant College Radio Program

DAY IN AND DAY OUT new facts and findings about agriculture are brought to light through research carried on in the State experiment stations, in the United States Department of Agriculture, and in other research institutions. Many of these facts are destined ultimately for practical use by farmers, to whom they are given by extension workers. But how are these voluminous and vastly scattered data assembled, segregated, collated, coordinated, and compressed into available form for consultation and permanent use? J. T. Jardine, newly appointed chief of the Office of Experiment Stations and assistant director of scientific work for the Department of Agriculture, will explain how this complicated task is accomplished. . . . County Agent George E. Boltz, of New Philadelphia, Ohio, will have an interesting story to tell about rural beautification. He has performed some outstanding work in this field. . . . From Romney, W. Va., will come Miss Martha Bonar, home demonstration agent, to tell about the things West Virginia farm women are doing to provide for the comfort of tourists. . . . The United States Army Band will be on tour during September and October. The concert will be played by the Homesteaders' Orchestra of the National Broadcasting Co. . . . Keep your newspaper, your local leaders, and others informed about the programs broadcast on the Land-Grant College Radio Hour.

Stations on Network of the National Broadcasting Co. Scheduled to Carry Program

Eastern Standard Time - 12:30 to 1:30 p.m.

KDKA, Pittsburgh; WBZ, Springfield; WBZA, Boston; WGAR, Cleveland; WHAM, Rochester; WIOD, Miami; WFLA-WSUN, Clearwater; WJR, Detroit; WJAX, Jacksonville; WJZ, New York City; WLW, Cincinnati; WPTF, Raleigh; WRC, Washington; WRVA, Richmond; WSB, Atlanta.

Central Standard Time - 11:30 a.m. to 12:30 p.m.

KFAB, Lincoln; KFYR, Bismarck; KSTP, St. Paul; KPRC, Houston; KTHS, Hot Springs; KWK, St. Louis; KVOO, Tulsa; KYW-KFKX, Chicago; WAPI, Auburn; WEBC, Superior; WFAA, Dallas; WDAF, Kansas City; WJDX, Jackson; WHO, Des Moines; WOC, Davenport; WOAI, San Antonio; WKY, Oklahoma City; WOW, Omaha; WMC, Memphis; WSM, Nashville; WSMB, New Orleans; WREN, Lawrence; WTMJ, Milwaukee; WDAY, Fargo; WHAS, Louisville.

Mountain Standard Time - 10:30 to 11:30 a.m.

KOA, Denver; KSL, Salt Lake City; KTAR, Phoenix.

Pacific Standard Time - 9:30 to 10:30 a.m.

KFI, Los Angeles; KGO, Oakland; KGW, Portland; KOMO, Seattle; KHQ, Spokane; KPO, San Francisco; KFSD, San Diego.

WATCH FOR LAND-GRANT COLLEGE RADIO HOUR

"Always the Fourth Saturday in Each Month"

1082

FARM WOMEN AND TOURIST HOMES

A radio talk by Miss Martha Bonar, Home Demonstration Agent, Romney, West Virginia, delivered Saturday, September 26, in the Land Grant College program, National Farm and Home Hour, broadcast by 53 associate NBC radio stations.

Good afternoon, ladies and gentlemen:

I am glad to have the privilege of talking to you about Farm Women and Tourist Homes. We have found that the Tourist Homes idea yields better living for both farm families and tourist families.

This Tourist Homes idea has a bit of history back of it, which I think I'll tell you as we begin our chat.

One of the very vexing problems of the farm family in West Virginia, as well as in many other States, is to build the farm business up to a size that will yield an income big enough to maintain an American standard of living. Now very often it doesn't appear wise to increase the size of the farm business by buying more land, or livestock, or equipment. Or perhaps it just isn't possible.

So the farm housewife, eager to give her children every advantage, casts about for a way to earn extra money. She can cook excellently, she is a good handworker. If she could find a way to sell the things she can make she could realize additional cash for the family income.

Now, in West Virginia, the Extension Service tried to meet this problem of finding an outlet for farm women's handiwork and homecooked food products. Under the inspiration of the Extension Service the farm women of the State banded together in the Mountain State Home Industries Shop.

This organization set up shops in the larger towns of the State to sell the products of home industries, thus solving the marketing problem of the ambitious farm homemaker.

Hard roads, swarming automobiles, and the American urge to travel pour through the West Virginia hills every year a steady stream of tourist traffic. City people, most of them are, looking for relief from the noise and bustle of their daily work.

These people undoubtedly would relish an overnight stay, or an even longer visit, in an attractive country home. But how are they to be sure that they have found such a home?

Well, in West Virginia they are guaranteed comfort and convenience and inviting surroundings by stopping at one of the Mountain State Tourist Homes.

These homes are an outgrowth of the Mountain State Home Industries Shop. Farm home owners belonging to the Home Industries Organization also are eligible to have their homes inspected by the Extension Service for certification as Mountain State Tourist Homes.

I have found 15 such homes in Eastern West Virginia. They are situated in or near the Allegheny Mountains with clear mountain streams to bathe or fish in nearby, and the mountains themselves to roam or hunt over. They have cool porches and gardens for summer; the houses are warm and livable for the cool fall and spring; the beds put one to sleep; the food starts one off ready to conquer new worlds that very day.

My job is to make sure that the homes under inspection measure up to standard on these and many other points. If they do, they are allowed to have a Mountain State Tourist Home sign, which is approved by the Mountain State Home Industries Shop and the Extension Division of West Virginia University.

The operators of Mountain State Tourist Homes have meetings at least twice a year. There we discuss our problems. Fortunately we have the guidance of Federal and State extension specialists. For instance, this spring, Miss Rokahr from the Federal Extension Service showed us how to keep accounts and be absolutely certain what the returns from accommodating tourists are.

Our people realize that they are learning while they earn. The operator of a tourist home learns how to make her home more livable at minimum expense. She meets many people from many States. She widens her interest in the affairs of the world.

In West Virginia, we feel that our farm women's work is one of the most vital points of the extension program. Not only do our farm women make homes for their families; they help to finance the family expenses. This part of their job is made much easier -- in fact it is made possible -- by the Mountain State Home Industries Shop, the farm women's selling organization that I told you about earlier, and -- for some families -- by the Mountain State Tourist Homes plan.

If any of you are interested in Mountain State Tourist Homes, stay all night with us when next you pass through West Virginia. We will try to show you and tell you all we know. We are sure you could give us some good suggestions.



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MAKING THE RURAL HOME ATTRACTIVE

A radio talk by Geo. E. Boltz, County Agent, Tuscarawas County, Ohio, delivered Saturday, September 26, in the Land Grant College program, National Farm and Home Hour, broadcast by 53 associate NBC radio stations,

Hidden among the hills of Tuscarawas County, Ohio; seven miles from a main highway is a farm home that was visited by at least 5,000 people during the past year.

The buildings are similar to those on thousands of Ohio farms and the land not different from that in the neighborhood. People from all parts of the State came to visit it solely because of its landscape plantings.

The interest and enthusiasm of the family living in this house have inspired the whole neighborhood to improve its homesteads. Now, it is the kind of a community one would choose to live in. The houses are neat and the yards a pleasure to enter. These people have learned to enjoy the natural beauties just as one learns to enjoy fine music, beautiful paintings and good books. In the meantime, some of the humblest houses have been changed into real homes. There, folks have come to realize that home is the place where they live and that therefore it ought to be fine.

The home grounds of this and five other farmsteads were planted with the cooperation of the Extension Service seven years ago to demonstrate the possibilities and value of making rural homes attractive. Shrubbery and flowers were grouped around the foundations of the buildings, along the borders of the yards and as screens for unsightly views. Trees were planted so as to frame the house, afford a background and offer shade, comfort, and beauty to the home. To these plantings, home owners made such additions as appealed to their fancy. In this manner, they gave expression to their own ideas and created distinctive individual touches to their own home surroundings.

Besides the demonstration farms, moving pictures and lantern slides shown at public meetings stimulated an interest in this work. As a result several carloads of shrubbery are sold annually within the county.

At the time of these plantings, very few farmers were interested in this work. But as the trees, flowers, shrubs and vines grew and the beauty of these homesteads developed, city as well as rural folks visited them with the purpose of adopting this practice for their own premises.

Rural folks often live in surroundings that are naturally beautiful and yet fail to appreciate their loveliness until it is pointed out to them. In order to make the most of such surroundings and to improve the setting of home sites, ten adult landscape clubs have been organized in our county. These clubs help their members in planning their home grounds so as to be attractive throughout the year. They plan to have flowers in bloom from early spring till late fall and from then on the shrubs, vines, and evergreens together with pleasing arrangements make the yards interesting even during winter. The clubs also improve public sites and hold annually flower shows for the benefit of local communities.

While farm folks are naturally concerned in the economic side of farming they also are interested in the aesthetic part of home life. Recently, two automobile tours were conducted through certain parts of the county. One was planned to study the cultural methods of crop production, the other to view landscape plantings. Five times as many people accompanied the landscape tour as accompanied the crop production tour, showing that people are interested in contributing things that improve their surroundings and add new joy to their living.

This work is not confined to adults alone but is planned to interest junior members of the family as well. Through Four-H flower clubs, boys and girls are taught the names of some of the common varieties, how to plant, grow and group them in flower beds and borders. Also how to arrange them in bouquets and exhibit them in flower shows. In other words, they are taught the art of producing and appreciating some of the beautiful things as they go through life.

Aside from the aesthetic value, this work in Tuscarwas County, Ohio, has real merit in building character for our boys and girls. This is shown by the fact that of the thousands of people that visited the demonstration farms since they were established no one ever molested a single thing belonging to the owner. Evidently people that are interested in flowers are people of fine character.

Beautifying the rural homestead has many advantages. Some of them are:

It creates pride and satisfaction in farm homes and their surroundings.

It affords recreation and enjoyment to visitors as well as to the owner.

It increases the money value of a home and adds to the worth of a community.

To the boys and girls it is a beautiful memory picture which they will carry throughout life. When they have reached manhood and womanhood thoughts of their childhood surroundings will be pleasant. And so, we are trying to give our Ohio boys and girls -- our future men and women -- something fine to think about when they think of home.



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LAND-GRANT COLLEGE RADIO HOUR

October 24, 1931

12:30 TO 1:30 P.M., EASTERN STANDARD TIME

*Presented by the Association of Land-Grant Colleges and Universities in Cooperation
with the United States Department of Agriculture, the United States Army Band,
and the National Broadcasting Co.*

PROGRAM

CONCERT.

The Homesteaders' Orchestra.

A SUCCESSFUL EXTENSION PROJECT.

Joseph H. Putnam, County Agricultural Agent,
Franklin County, Mass.



CONCERT.

The Homesteaders' Orchestra.

THE GARDEN'S CONTRIBUTION TO THE FAMILY DIET.

Esther C. Lott, County Home Demonstration Agent,
Ottawa County, Mich.

CONCERT.

The Homesteaders' Orchestra.

RECENT IMPORTANT RESEARCH DISCOVERIES BY FEDERAL AND STATE EXPERIMENT STATIONS.

Dr. A. F. Woods, Director of Scientific Work,
U. S. Department of Agriculture.

THE NEXT PROGRAM WILL BE BROADCAST ON MONDAY, NOVEMBER 16.

TIME OF BROADCAST.—12.30 to 1.30 p. m., Eastern Standard Time; 11.30 a. m. to 12.30 p. m., Central Standard Time; 10.30 to 11.30 a. m., Mountain Standard Time; 9.30 to 10.30 a. m., Pacific Standard Time.

DISTRIBUTION.—Copies of this announcement have been sent to all extension workers.

(OVER)

TUNE IN SATURDAY, OCTOBER 24, 1931, on the Land-Grant College Radio Program

Significant recent scientific discoveries and their potential value in rural life will be reviewed on this program by Doctor Woods for the radio audience. . . . What effect can raspberries have on community life? "They can revive a farm community," says County Agent Putnam, and he tells how in his discussion of the successful extension project that helped to redeem a community. . . . The contribution that home gardens can make to the health of the family through proper diet will be related by Miss Lott. . . . The date of the program for November will vary from the usual procedure of having these broadcasts "always on the fourth Saturday of each month." The change has been brought about by the meeting of the Association of Land-Grant Colleges and Universities in Chicago on November 16, 17, and 18. The next broadcast will be on Monday, November 16, and will come direct from the meeting of the association. The ensuing programs will again be broadcast on the fourth Saturday of each month.

Stations on Network of the National Broadcasting Co. Scheduled to Carry Program

Eastern Standard Time - 12:30 to 1:30 p.m.

KDKA, Pittsburgh; WBZ, Springfield; WBZA, Boston; WGAR, Cleveland; WHAM, Rochester; WIOD, Miami; WFLA-WSUN, Clearwater; WJR, Detroit; WJAX, Jacksonville; WJZ, New York City; WLW, Cincinnati; WPTF, Raleigh; WRC, Washington; WRVA, Richmond; WSB, Atlanta.

Central Standard Time - 11:30 a.m. to 12:30 p.m.

KFAB, Lincoln; KFYZ, Bismarck; KSTP, St. Paul; KPRC, Houston; KTHS, Hot Springs; KWK, St. Louis; KVOO, Tulsa; KYW-KFKX, Chicago; WAPI, Auburn; WEBC, Superior; WFAA, Dallas; WDAF, Kansas City; WJDX, Jackson; WHO, Des Moines; WOC, Davenport; WOAI, San Antonio; WKY, Oklahoma City; WOW, Omaha; WMC, Memphis; WSM, Nashville; WSMB, New Orleans; WREN, Lawrence; WTMJ, Milwaukee; WDAY, Fargo; WHAS, Louisville; WIBA, Madison.

Mountain Standard Time - 10:30 to 11:30 a.m.

KOA, Denver; KSL, Salt Lake City; KTAR, Phoenix.

Pacific Standard Time - 9:30 to 10:30 a.m.

KFI, Los Angeles; KGO, Oakland; KGW, Portland; KOMO, Seattle; KHQ, Spokane; KPO, San Francisco; KFSD, San Diego.

WATCH FOR LAND-GRANT COLLEGE RADIO HOUR

"Always the Fourth Saturday in Each Month"

(O V E R)

RECENT AGRICULTURAL RESEARCH RESULTS.

RECEIVED
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A radio talk by Dr. A. F. Woods, Director of Scientific Work, delivered in the Land-Grant College program of the National Farm and Home Hour of Saturday, October 24, through a network of 51 associate NBC radio stations.

A true estimate of the effect of the results of research on agriculture can be gained only after the lapse of years of practical experience. The scientist is not a miracle worker but a patient searcher after truth, an explorer and investigator of nature, a discoverer of ways to control natural forces. His material comes from exact observation in the fields of all the great scientific aspects of nature, viz., astronomy, physics, chemistry, biology, geology, and mathematics and their applications in engineering, medicine, agriculture and industry.

To really trace the evolution of any so-called discovery either in the realm of fact or deduction would require excursions into many fields over long periods of time covering contributions by many workers.

In presenting some of the more recent results of modern scientific research it should therefore be clearly understood that they are developments that were made possible only by the patient accumulation of facts through years of study by many workers in many fields. No individual is entitled to all or even a large part of the credit for any important so-called discovery or scientific formulation or invention, though it is our custom to give the credit to those who made the important advances, especially the applications.

Charles Darwin, for example, formulated his theory of evolution as a result of his study of the work of practical plant and animal breeders. It was only a step from artificial selection to natural selection and the survival of the fittest in the struggle for existence. Then DeVries called special attention to another form of evolution, which he called mutation, a sudden inheritable change in a species produced without known cause.

From these early observations we have two very practical lines of development: First, the study of the laws of inheritance in hybrids. These discoveries by Mendel, which have been applied in the production of many new varieties of plants and animals that breed true and have the qualities desired -- for example, rust-resistant wheat, wilt-resistant cottons, water-melons, cowpeas, and other crops, various disease resistant potatoes, sugar canes, sugar beets, etc., cold and drought-resistant strains of cereals, grains, fruits, and vegetables. Practically every experiment station as well as the Department of Agriculture is busily engaged in maintaining health, yield, and quality of the important crops of its region by scientific breeding and selection to meet particular requirements.

The other line of development is in the artificial production of mutation (inheritable variation) by exposing the reproductive cells to X-rays. This form of radiation was unknown until discovered, more or less by accident, by Roentgen in 1898, thus opening up an entire new field of physics, chemistry, and biology. These new short-wave length rays were found to have profound effects on plant and animal organisms. Some of them could produce in animals disturbances that behaved like cancer. The same rays used properly could control cancer. They were found to retard or stimulate the germination of

seeds and growth of plant tissues, but most interesting of all, they were found to set up mutative changes in plant and animal germ cells. Profound inheritable changes may thus be produced. How far X-rays may be used to bring about desired changes must await further research.

An interesting point is that short-wave length rays of the X-ray type are given off by radium and many other radio-active substances, and may be the natural cause of mutation in nature. It is a new and rapidly developing field both in physics and biology.

We must always bear in mind that all life on the earth draws its energy directly or indirectly from the sun. Whether or not the cosmic rays, which appear to be everywhere in space, have measurable effects on living organisms we do not yet know. We do know, however, that the different rays of the sun's spectrum have definite relations to plant and animal life activity. I have already described one effect in stimulating evolutionary change. Light is also essential in everyday activity of plants and animals. We know that it provides the energy that enables green plants to combine the carbonic acid of the air with water, making carbohydrates, such as sugars, starches, and cellulose. These are further combined in the plant cell with nitrogen, taken originally from the air mainly by nitrogen-fixing bacteria working in association with legumes or certain other plants that feed the bacteria with the necessary carbohydrates. Animal life then feeds on the carbon and nitrogen made available by plants.

This series of biochemical changes lies at the foundation of agriculture. All our agricultural operations are to facilitate and control these processes. Much work is in progress by the Department and the stations with this in view.

By varying the length of exposure to light and by modifying the wave lengths of the light used or by increasing or decreasing the intensity of the total light, such as increasing or decreasing the ultra-violet rays, we can produce profound changes in time of flowering and fruiting or in the chemical composition, especially in the vitamin content of plant tissues.

Vitamin is the name given to a group of substances found in plants under suitable conditions that are essential to growth, reproduction, and health of animals. In fact without them animals can not utilize the sugars, starches, proteins, and other food elements. The development in this field has been so rapid that little is yet known of the chemical nature of vitamins. Several of them at least are formed only under the influence of specific types of radiation.

Studies in this field have already yielded highly important results. As a result of knowledge already gained it is possible to select food combinations that greatly increase resistance to such diseases as tuberculosis and prevent and cure beriberi, scurvy, rickets, xerophthalmia (a serious inflammation of the eye lids), pellagra, and other diseases due to disturbances in nutrition, brought about by the lack of proper vitamins.

A very large part of this work has been done by the experiment stations and the Department of Agriculture, especially by the Connecticut Agricultural

Experiment and by the Wisconsin Station. But back of them is a long series of researches and observations leading up to their discoveries and ahead is a long road leading to more complete knowledge and therefore more effective control.

Some of these essential qualities of our food materials -- vegetables, fruit, milk, and meat -- are destroyed or greatly weakened by improper preparation or preservation of food. Research is pointing out ways to avoid these dangers. It is important for the public to get its information on these matters from reliable sources and not to be misled by food faddists.

Another important recent development in the field of nutrition is the discovery that copper is apparently as important as iron in plant and animal nutrition. In certain soils lacking in copper crops will not grow until a trace of available copper is added. Investigations at the Wisconsin Station have shown that copper is necessary in animals for red-blood formation and that it is largely the copper in liver that makes it effective in controlling pernicious anemia. Some other forms of anemia are cured by feeding the patients foetal liver. Just what foetal liver contains that controls these secondary anemias is not known, but is now the subject of investigations, in which the Department is cooperating.

The Department and experiment stations have in the past few years added much to the knowledge of diseases of plants and animals caused by ultra-microscopic agents that pass through filters that remove ordinary bacteria. These agents are therefore called filterable viruses. They cause enormous losses to cultivated crops and fruits, especially sugar cane, sugar beet, potatoes, and other vegetables, peaches, and ornamental plants. The viruses in many cases are carried by insects, especially leaf hopper and plant lice.

The important economic aspects of these studies lies in the discovery that resistance to these diseases is an inheritable character. Resistant varieties can be selected and bred. This has been accomplished for sugar cane and potatoes and is now in progress for sugar beets.

An important new development in this field was made about the same time in the Department of Agriculture and by workers in the Northwestern University Medical School, viz., that it is possible by use of proper food materials or culture media to change some bacteria into an invisible filterable form and then from this obtain again the visible form. Investigators at the Northwestern University Medical School have been able to do this with the organisms involved in several of the most serious diseases of human beings. It is a new development that has great promise of valuable practical use in the control of these diseases.

Time does not permit even mention of many other highly important advances made in recent years in the field of bacterial and fungous diseases of plants and their control, the control of insect pests, the nature and control of such destructive animal diseases as contagious abortion in cattle and hogs, and hog cholera.

Research, conducted largely by the Department of Agriculture, has established in this country the fixation of atmospheric nitrogen on a commercial scale, making the United States independent in this field.

Important advances have also been made in extracting potash and phosphorus from materials available in this country and in preparing these fertilizers in more concentrated and available forms.

The Dairy Bureau has developed improved methods for the manufacture of milk sugar and the utilization of valuable food proteins in dairy by-products now wasted.

In the breeding of dairy cattle research in the Bureau developed principles which make it practicable to greatly increase the productivity of dairy herds.

In this brief review it has not been possible to mention important advances made in Forestry research, soil and fertility studies, waste product utilization, agricultural exploration and plant introduction, agricultural economics and marketing, or in many other fields essential not only to agriculture but to the general welfare. Research points the way of progress and is absolutely essential to public welfare.

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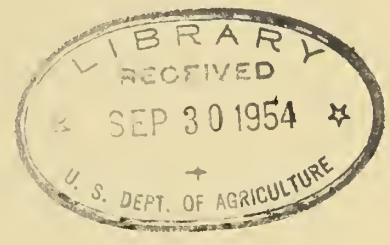
LAND-GRANT COLLEGE RADIO HOUR

November 16, 1931

12:30 TO 1:30 P.M., EASTERN STANDARD TIME

Presented by the Association of Land-Grant Colleges and Universities in Cooperation with the United States Department of Agriculture, the United States Army Band, and the National Broadcasting Co.

PROGRAM



CONCERT.

The Homesteaders' Orchestra.

WESTERN AGRICULTURE CARRIES ON.

W. J. Kerr, President, Oregon State Agricultural College,
Corvallis, Oreg.

CONCERT.

The Homesteaders' Orchestra.

THE SOUTH FACES THE COTTON PROBLEM.

Bradford Knapp, President, Alabama Polytechnic Institute,
Auburn, Ala.

CONCERT.

The Homesteaders' Orchestra.

THE YEAR WITH THE LAND-GRANT INSTITUTIONS.

G. W. Rightmire, President, Ohio State University,
Columbus, Ohio.

TIME OF BROADCAST.—12.30 to 1.30 p. m., Eastern Standard Time; 11.30 a. m. to 12.30 p. m., Central Standard Time; 10.30 to 11.30 a. m., Mountain Standard Time; 9.30 to 10.30 a. m., Pacific Standard Time.

DISTRIBUTION.—Copies of this announcement have been sent to all extension workers.

(OVER)

TUNE IN MONDAY, NOVEMBER 16, 1931, on the Land-Grant College Radio Program

FROM CHICAGO, where the Association of Land-Grant Colleges and Universities will sit in session on November 16, 17, and 18, will come the next land-grant college radio program. The date, as announced previously, will be Monday, November 16. In December the usual custom of broadcasting these programs on the fourth Saturday in each month will be resumed. . . . How the West is meeting its current agricultural problems, will be told by President Kerr of Oregon. . . . President Knapp of Alabama will outline the South's program for overcoming foreign competition for the cotton markets of the world and for improving southern standards of rural life. . . . The contribution that the land-grant institutions are making to the basic industries of the Nation during this crucial time, will be discussed by President Rightmire of Ohio.

Stations on Network of the National Broadcasting Co. Scheduled to Carry Program

Eastern Standard Time - 12:30 to 1:30 p.m.

KDKA, Pittsburgh; WBZ, Springfield; WBZA, Boston; WGAR, Cleveland; WHAM, Rochester; WIOD, Miami; WFLA-WSUN, Clearwater; WJR, Detroit; WJAX, Jacksonville; WJZ, New York City; WLW, Cincinnati; WPTF, Raleigh; WRC, Washington; WRVA, Richmond; WSB, Atlanta.

Central Standard Time - 11:30 a.m. to 12:30 p.m.

KFAB, Lincoln; KFYZ, Bismarck; KSTP, St. Paul; KPRC, Houston; KTHS, Hot Springs; KWK, St. Louis; KVOO, Tulsa; KYW-KFKX, Chicago; WAPI, Auburn; WEBC, Superior; WFAA, Dallas; WDAF, Kansas City; WJDX, Jackson; WHO, Des Moines; WOC, Davenport; WOAI, San Antonio; WKY, Oklahoma City; WOW, Omaha; WMC, Memphis; WSM, Nashville; WSMB, New Orleans; WREN, Lawrence; WTMJ, Milwaukee; WDAY, Fargo; WHAS, Louisville; WIBA, Madison.

Mountain Standard Time - 10:30 to 11:30 a.m.

KOA, Denver; KSL, Salt Lake City; KTAR, Phoenix.

Pacific Standard Time - 9:30 to 10:30 a.m.

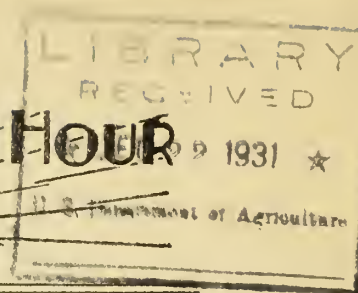
KFI, Los Angeles; KGO, Oakland; KGW, Portland; KOMO, Seattle; KHQ, Spokane; KPO, San Francisco; KFSD, San Diego.

WATCH FOR LAND-GRANT COLLEGE RADIO HOUR

"Always the Fourth Saturday in Each Month"

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LAND-GRANT COLLEGE RADIO HOUR

December 26, 1931

12:30 TO 1:30 P.M., EASTERN STANDARD TIME

Presented by the Association of Land-Grant Colleges and Universities in Cooperation with the United States Department of Agriculture, the United States Army Band, and the National Broadcasting Co.

PROGRAM

CONCERT. The United States Army Band.

STEADY CASH INCOMES FOR SOUTH CAROLINA FARM HOMES FROM HOME DEMONSTRATION CLUB MARKETS.

Lonny I. Landrum, State Home Demonstration Agent,
Winthrop College, Rock Hill, S. C.

CONCERT. The United States Army Band.

THE COUNTY AGENT AND AGRICULTURAL READJUSTMENT.

Ellwood Douglass, County Agricultural Agent,
Monmouth County, N. J.

CONCERT. The United States Army Band.

THE NATIONAL SYSTEM OF AGRICULTURAL EXTENSION.

Arthur Capper, United States Senator.

TIME OF BROADCAST.—12.30 to 1.30 p. m., Eastern Standard Time; 11.30 a. m. to 12.30 p. m., Central Standard Time; 10.30 to 11.30 a. m., Mountain Standard Time; 9.30 to 10.30 a. m., Pacific Standard Time.

DISTRIBUTION.—Copies of this announcement have been sent to all extension workers.

(OVER)

TUNE IN SATURDAY, DECEMBER 26, 1931, On the Land-Grant College Radio Program

One long identified with conservative movements to bring about better farming conditions will speak on the next Land-Grant College Radio Program. Senator Arthur Capper of Kansas, joint author of the Capper-Ketcham Act to increase extension funds, will discuss the national system of agricultural extension from the vantage point of a legislator, farmer, and newspaperman. . . . South Carolina home demonstration workers have gone far in helping farm women to establish and maintain club markets as an outlet for their products. Miss Landrum will explain how their well-planned efforts have helped many farm women to obtain a steady cash income. . . . How can the county agent help to bring about a more rapid adjustment of agriculture to the point where it will pay an equitable return to the farmer? Hear the interesting things that Ellwood Douglass has to say about this. . . . Finally, we welcome back to our program the United States Army Band.

Stations on Network of the National Broadcasting Co. Scheduled to Carry Program

Eastern Standard Time - 12:30 to 1:30 p.m.

KDKA, Pittsburgh; WBZ, Springfield; WBZA, Boston; WFLA-WSUN, Clearwater; WGAR, Cleveland; WHAM, Rochester; WIOD, Miami; WIS, Columbia; WJAX, Jacksonville; WJR, Detroit; WJZ, New York City; WLW, Cincinnati; WPTF, Raleigh; WRC, Washington; WRVA, Richmond; WSB, Atlanta.

Central Standard Time - 11:30 a.m. to 12:30 p.m.

KFYR, Bismarck; KOIL, Council Bluffs; KPRC, Houston; KSTP, St. Paul; KTHS, Hot Springs; KVOO, Tulsa; KWK, St. Louis; KYW, Chicago; WAPI, Auburn; WDAF, Kansas City; WDAY, Fargo; WEBC, Superior; WFAA, Dallas; WHAS, Louisville; WHO, Des Moines; WIBA, Madison; WJDJ, Jackson; WKY, Oklahoma City; WMC, Memphis; WOAI, San Antonio; WOC, Davenport; WOW, Omaha; WREN, Lawrence; WSM, Nashville; WSMB, New Orleans; WTMJ, Milwaukee; WWNC, Asheville.

Mountain Standard Time - 10:30 to 11:30 a.m.

KOA, Denver; KSL, Salt Lake City; KTAR, Phoenix.

Pacific Standard Time - 9:30 to 10:30 a.m.

KFI, Los Angeles; KFSD, San Diego; KGO, Oakland; KGW, Portland; KHQ, Spokane; KOMO, Seattle; KPO, San Francisco.

WATCH FOR LAND-GRANT COLLEGE RADIO HOUR

"Always the Fourth Saturday in Each Month"

(O V E R)