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Growth Through Agricultural Progress





**Official monthly publication of
Cooperative Extension Service:
U.S. Department of Agriculture
and State Land-Grant Colleges
and Universities cooperating.**

The Extension Service Review is for Extension educators—in County, State, and Federal Extension agencies—who work directly or indirectly to help people learn how to use the newest findings in agriculture and home economics research to bring about a more abundant life for themselves and their communities.

The Review offers the Extension worker, in his role of educational leader, professional guideposts, new routes, and tools for speedier, more successful endeavor. Through this exchange of methods, tried and found successful by Extension agents, the Review serves as a source of ideas and useful information on how to reach people and thus help them utilize more fully their own resources, to farm more efficiently, and to make the home and community a better place to live.

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EAR TO THE GROUND

It is well to remember and understand the past in our rush into the future. As President Emeritus J. L. Morrill of the University of Minnesota said in his Land-Grant Centennial Convocation address on "The Land-Grant Tradition in American Education:"

"It is well to be reminded. That is why we are met today. It is well to remember the tradition which is our strength. Someone has said, 'history is community memory.' Without memory a man, or a nation, is almost mindless—helpless, alone at sea without the compass of experience."

I think we can all agree that "it is well to be reminded."

The act establishing the Department of Agriculture and the Land-Grant Act in 1862 marked the culmination of many years of effort. It is interesting to know, for instance, that "proposals for the creation of a Federal Department of Agriculture were made as far back as 1776, when two resolutions recommending aid to agriculture were adopted by the Second Continental Congress."

In observing their Centennials, USDA and the Land-Grant System are in large measure doing homage to America's farm and other rural people. Their faith in the future

helped nurture the Department and land-grant colleges.

It is inspiring to know that even though the U. S. was caught up in an internal war in 1862, two institutions were created which would contribute greatly to building today's great, united Nation.

In the 100 years since 1862 the Department and the land-grant universities and colleges have helped the farm people of America attain world leadership in the efficient production of food and fiber. Agriculture today is the Nation's largest industry, with assets exceeding \$206 billion. Four of every 10 jobs in private employment are in agriculture, or related to it.

In this issue of the Review commemorating USDA's Centennial it is pretty obvious that we could not tell the story of 100 years of service. You'll find much of that in the 1962 Yearbook of Agriculture.

What we've tried to do here is give you a broad picture of the Department along with pertinent historical material. The major articles cover basic concepts on education, research, community development, foreign trade, and consumer work. The picture spread highlights the Department's wide range of work.—WAL

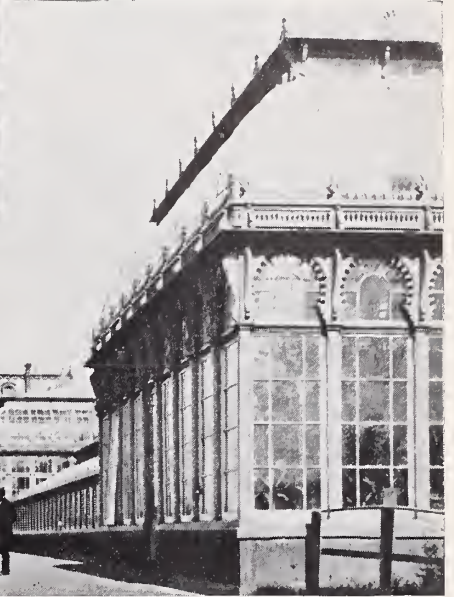
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Today, USDA offices occupy several buildings in downtown Washington, D. C., plus field locations across the country. In 1869, USDA was housed in the building below (including greenhouse) on same site as present Administration building. Smithsonian Institution and Capitol are in background.



100 years of SERVICE through RESEARCH and EDUCATION X

by WAYNE D. RASMUSSEN, Historian, U. S. Department of Agriculture

AN Illinois lawyer and a Pennsylvania dairy farmer, both mainly self-taught, combined views 100 years ago giving life and direction to the U. S. Department of Agriculture.

When President Lincoln signed the act of May 15, 1862, he brought into being a new agency—"to acquire and diffuse among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of that word, and to procure, propagate, and distribute among the people new and valuable seeds and plants."

Isaac Newton, who shipped high-quality butter to the White House from his Pennsylvania farm, became the first Commissioner of Agriculture. (The head of the Department did not become a Secretary with cabinet status until 1889.)

Newton emphasized the need for education, saying in his first report: ". . . the department should aim to teach or recommend authoritatively, by concentrating the ripest agricultural experience and scholarship, the

best methods of culture, the choicest plants, vegetables, and fruits, the most valuable grains, grasses, and animals, domestic and otherwise, and the most improved implements of husbandry."

Congress had directed the Commissioner to acquire and preserve all information concerning agriculture which could be obtained from books, correspondence, scientific experiments, and collection of statistics. This broad directive led to the development of one of the world's greatest educational and research institutions.

Education and Experimentation

The same year the Department was established, Congress passed the Morrill Land-Grant College Act, giving each State a grant of land for colleges of agriculture and the mechanic arts.

This Act, signed by Lincoln on July 2, 1862, provided for "the endowment, support, and maintenance of at least one college in each State where the leading object shall be,

without excluding other scientific or classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

From their beginnings the Department and the land-grant colleges were partners in advancing scientific agriculture and the national well-being. This partnership was given additional strength with passage of the Hatch Act in 1887 that provided Federal aid for the support of an agricultural experiment station in each State. Experiment stations connected with land-grant colleges were in operation in eight States when the act passed.

In a sense these institutions marked the culmination of many years of struggle. Agricultural experimentation was a grim necessity to the colonists at Jamestown, Plymouth, and in the Southwest. Over the

(See *100 Years*, page 108)

Putting Science to Work For Farmers and Consumers

by **BYRON T. SHAW**, Administrator, Agricultural Research Service, and
Coordinator, USDA Research Programs

THE desire for new knowledge through research was one of the principal reasons for establishing USDA 100 years ago. When Isaac Newton, first Commissioner of Agriculture, issued his initial report he outlined several major objectives in research. These included the introduction of new plants and conducting work on botany and entomology.

From the beginning, scientists in the Department have worked closely with the land-grant colleges and experiment stations to develop scientifically tested knowledge for use in agriculture. Working together, they have helped to increase the efficiency of farm production and to provide the quality, abundance, and variety of food and fiber that consumers have come to expect.

Through crops research, State and Federal scientists have changed the plants that farmers grow. They have supplied new germ plasm and adapted

foreign crops, such as soybeans, to our climate and methods of farming. They have fixed resistance to diseases and insect pests in established crops and tailored many crops to fit machine operations on the farm.

Improving Plant Varieties

As a result, farmers today are planting almost none of the crop varieties they depended on 25 to 30 years ago. For example, 25 years ago farmers were planting largely European varieties of sugarbeets. They first made a 100-percent change to varieties developed by U. S. scientists for better disease-resistance in this country. Now, with the development of the new monogerm seeds, farmers have made another almost complete change in the varieties of sugarbeets they plant.

During the same 25-year period, farmers made a 99-percent change in varieties of corn, soybeans, and flax-

seed. They made a change of about 88 percent in the wheat varieties they plant.

Basic research, designed to develop broader understanding of the sciences important to agriculture, is the foundation of USDA's progress in science and technology. It develops new knowledge about a science that expands the area in which applied research can work to solve the specific problems.

For example, late in 1959 a team of ARS scientists achieved one of the great discoveries of the century by isolating the substance in plants that starts them growing, determines how they'll grow, and keeps them growing. The ingredient is a light-sensitive pigment, a protein common to all plants. The scientists, who named the protein "phytochrome," believe this may well be the first step toward complete control of plant growth, allowing man to alter plants to suit whatever ends he wishes.

In livestock research our scientists developed improved breeds that make more efficient use of feeds and yield better quality meat, milk, and eggs. They developed hybrid hogs and meat-type hogs. They tailor-made a smaller turkey to suit the needs of the modern family.

Our scientists worked out the methods of performance testing of beef cattle that are making an important contribution to increased efficiency in beef production.

They also have made great strides in learning more about animal diseases, and developing reliable tests and vaccines that have enabled us to eradicate or control many serious diseases. For example, we have either eliminated or controlled foot-and-mouth disease, cattle tick fever, bovine tuberculosis and brucellosis, Asiatic Newcastle disease and pullorum disease in poultry, and hog cholera and vesicular exanthema in swine.

In 1892, USDA scientists announced the discovery that infection can be carried from one animal to another by an intermediate host. The case in point was a tick, carrier of cattle fever.

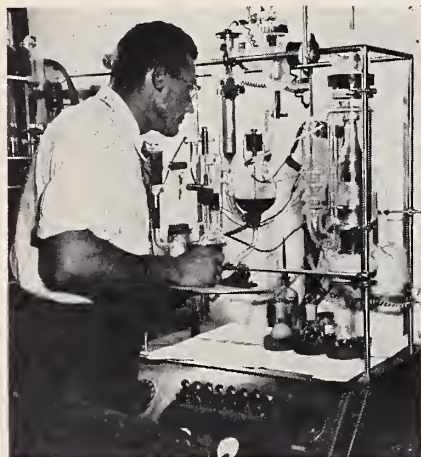


Fruits are grown in the field under controlled environment at the Pennsylvania Experiment Station. With devices such as this, daily growth rhythms of grapes, cherries, and apples have been established. It was noted that such fruits tend to shrink during the forenoon.

It cost \$65,000 to support the research that led to this finding.

Today, because of this research, farmers save at least \$60 million a year. But even more important, the discovery unlocked the mysteries of such human diseases as malaria, yellow fever, typhus, bubonic plague, and Rocky Mountain spotted fever.

Research on highly contagious foreign diseases is conducted at the Plum Island Animal Disease Laboratory located in Long Island Sound. Domestic diseases are studied at the National Animal Disease Laboratory at Ames, Iowa; animal parasite studies are conducted at the Agricultural Research Center at Beltsville, Md.



The molecular is being used by this scientist to purify derivatives of animal fats that are used in plasticizers. Through such utilization research, unwanted animal fats are put to use as floor tile, curtain and upholstery materials, place mats, and oilcloth.

New knowledge developed at these laboratories can be put to use in regulatory programs, administered by the Agricultural Research Service, to eradicate animal diseases and parasites that cost the livestock industry nearly \$3 billion a year. We will also be better prepared to move quickly with eradication programs if dangerous foreign diseases should appear. This is part of the dual research and regulatory responsibility of USDA.

Scientists in entomology have found more and more effective ways to control damaging insect pests. Research provided the knowledge that paved the way for eradication of the Medi-

terranean fruit fly in Florida and Hall scale in California.

Newer methods of eradicating insects by the sterile-male technique have opened up many possibilities. By releasing flies sterilized by irradiation, scientists wiped out the screwworm fly in the Southeast. Soon, perhaps, we can use chemical methods of sterilization. New insect attractants are proving successful in helping to eliminate insects with smaller amounts of insecticides.

Studies in soil and water have developed methods of range management, terracing, mulching, and other soil management practices that have helped to reduce erosion.

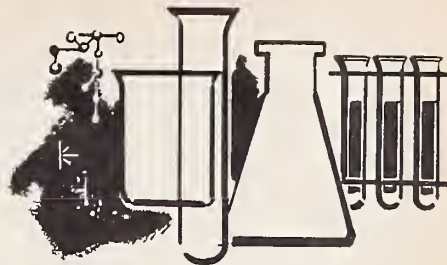
Other studies have produced methods of forecasting water supplies and measuring irrigation water. Scientists working in water conservation and agricultural engineering have pooled their talents to develop practical methods of irrigation that save more of the available water supplies and still enable us to make arid lands productive. We will have to continue finding better ways to conserve the water used in agriculture as competition for available water supplies becomes keener.

Advances in Management

As early as 1866 State and Federal scientists in farm economics research were collecting facts about crops and farm wages. They keep all of agriculture informed about existing trends and the outlook for the future in farm production and demands.

Against a background of this information, farmers can make more practical plans. Furthermore, the findings in research on farm management efficiency have helped many farmers put their operations on a paying basis.

In forestry research, scientists have made invaluable contributions in the entire field of forestry and wildlife management. This includes the growth and harvesting of timber as well as protecting forests from fire, insects, and diseases. As industrial, urban, and suburban development take over more and more land, it becomes increasingly important to protect our forests and timberland—to protect the esthetic as well as the economic value.



Agricultural research is concerned with much more than just producing from the land. It must embrace the entire complex of agriculture, including methods of transportation, handling, marketing, storage, finding buyers for agricultural products, and protecting the wholesomeness of food products.

Until the Insecticide Act of 1910, sponsored by USDA, the public had no Federal protection against fraudulent, ineffective, and unsafe chemicals used against crop, animal, household, and human pests. Protection was broadened further as new chemicals came into use against the widening range of pests. The ARS-administered Federal Insecticide, Fungicide, and Rodenticide Act now required registration, testing, and proper labeling of more than 50,000 interstate-shipped or imported products for household, institutional, and structural as well as agricultural pest control.

Cooperative Federal-State research in agricultural marketing has been underway since 1916. Combined efforts have developed constantly changing improvements on ways to handle and market farm products.

These research-developed methods have helped to create the highly mobile food industry in this country today. The family shopper in a modern supermarket can select from as many as 5,000 different food items produced in all 50 States.

We try to find buyers for farm products through utilization research aimed at developing better, more versatile qualities in existing farm prod-

(See Research Progress, page 110)

Challenge in the Second Century

by LLOYD H. DAVIS, Acting Deputy Administrator,
Federal Extension Service

THE people of rural America are better informed and better educated than ever before. Yet their need for education and information is greater. Their world is changing and growing more complex at an ever increasing pace. The problems with which they must be concerned are expanding in both scope and intensity.

The problem of inadequate incomes in agriculture cries for more rapid solution. Economic pressures for more specialized and larger family farm operations are spurring family farm operators to rapid adjustments. Growing competition for labor, capital, and land presses farm operators. Profit margins in farming leave little room for error. Underemployment and low incomes of people in many rural areas demand public attention.

The exodus of people from some rural areas and the "rurbanization" of others strains community institutions. With changes in the marketing system, long established marketing devices become obsolete. Nonfarm use

of land and water resources, increasing rapidly, generate a general concern for conservation. Changing family life puts stresses on social institutions. An exploding range of opportunities for rural youth multiplies the need for career planning.

The responsibilities of a nation providing world leadership toward peace with dignity and freedom are on the shoulders of all its citizens.

A Free Society

Belief in the soundness of private decisions freely made and public decisions reflecting the combined judgment of numbers of well informed people is basic to the philosophy on which our society was founded.

In support of this philosophy, the American people have placed great emphasis on education to provide the knowledge and understanding basic to such free choice by individuals and participation in public decisions. They have provided a complex of educational institutions to serve this need.

The Morrill Act of 1862, establishing our land-grant colleges and universities to provide educational opportunities to "the industrial classes" was an important step in developing these institutions. In the same year Congress took another important step in education when it established the U. S. Department of Agriculture.

From its beginning USDA has had responsibilities in education—education concerned with many facets of agriculture, to serve the general welfare, and particularly to help rural people with their farm and community problems. As times and needs have changed, so has USDA's educational work.

In 1914 educational programs were recognized as being of such importance to the work of the Department that a special act was passed providing for a greater concentration of educational effort on a cooperative basis. Since then, the Cooperative Extension Service, involving the U. S. Department of Agriculture, the land-grant colleges, and county government, has been the major channel through which general educational programs have been conducted.

Through these programs knowledge and research results available in the colleges and in USDA are applied to the needs of rural people. Extension is the connecting link between the people and their problems on one side, and USDA and college research knowledge on the other.

While the Cooperative Extension Service is the major channel for educational programs involving the Department, various agencies of the Department engage in educational activities dealing specifically with their program responsibilities.

Contributions of Agriculture

It is well known that the public investment in this education and research team has paid off—has paid handsome dividends benefiting all the people. With the help of this team, rural people have made many contributions to a strong, prosperous America. The miracle of production efficiency has:

- Released human resources to
(See *Education's Challenge*, page 110)



Improving Farmers' Economic Status

AMERICA'S farmers have achieved a revolution in food and fiber production, showing the way to freedom from hunger and want. Yet, to some extent, farmers are being penalized by their own success. To help prevent this, certain USDA agencies work toward stabilizing agricultural production.

During the last third of USDA's first 100 years, government assistance to farmers took the principal form of "farm action" programs. That is, growers on individual farms cooperated in working toward national agricultural objectives.

These programs have been authorized by Congress generally as a means of strengthening the national economy by improving the farmer's economic status. Such programs operate mainly under the general supervision of the Agricultural Stabilization and Conservation Service (ASCS).

These programs include price supports, acreage allotments, and marketing quotas; disposal of products through sale, barter, and donation; the International Wheat Agreement, Soil Bank, Sugar Act, and mobilization planning. In addition, the Agricultural Conservation Program provides cost-payments to farmers for certain recommended conservation practices.

Dealing with Farmers

Since these programs require direct dealing with farmers, they are administered locally through the farmer-committee system. This represents a major departure from previous national farm-aid measures.

These Agricultural Stabilization and Conservation (ASC) farmer-committees, at county and community levels, have been elected by their neighbors. As directed by legislation, they administer the farm-action programs.

State farmer-committees, serving as representatives of both farmers and Government, are appointed by the Secretary of Agriculture.

Directors of State agricultural extension services and county agents are ex officio members of the appropriate committees.

Production Adjustment

Production "adjustment" programs in operation today (for commodities in which the Nation is more than self-sufficient) include acreage allotments and marketing quotas for five basic crops—wheat, cotton, peanuts, rice, and tobacco.

The feed grain program for corn, grain sorghum, and barley; and the wheat stabilization program add to the older allotment principle payments to help divert acreage taken out of production into conservation.

There are adjustment programs for two commodities in which the Nation is not self-sufficient.

The wool program encourages increased production of wool "as a measure for our national security and in promotion of the general welfare." The sugar program seeks to maintain a healthy and competitive domestic sugar industry of limited size. This program is intended to assure adequate sugar supplies for consumers at reasonable prices and to promote general export trade.

Price-support programs, since 1934, have given farmers a ready means of maintaining income while promoting orderly marketing. The programs operate through Commodity Credit Corporation (CCC) loans, purchase agreements, and direct purchases from farmers.

Supports now are mandatory for a wide range of farm products. They are permissive, at the Secretary's discretion, for all other agricultural commodities.

Commodities acquired as a result of price support operations are disposed of mainly through commercial sales. Other outlets include sales to foreign governments, transfers to other U. S. Government agencies, and donations through domestic and foreign relief programs.

Certain government-owned feed grain is made available to areas hit by sudden disasters, such as floods or hurricanes. These grains are free of charge and are distributed by the State government concerned.

Under other programs, farmers, ranchers, and stockmen may purchase government grain or receive government loans to purchase commercial feed.



In going all out for high production there is no need for the farmer to "go for broke." He can hedge against the loss of his investment in the crop through Federal Crop Insurance.

That is, he can insure against loss of quantity and quality from unavoidable loss due to bad weather, insects, disease, etc. He cannot insure against the risks of price.

A lot of cash and labor go into the cost of growing crops. And farmers make their money from know-how, skills, energy, and resourcefulness—not from taking big risks.

By taking crop insurance, farmers can pool much of their risk with other farmers—about 1/3 million. Insurance spreads the risk not only over many farmers, but over many areas, kinds of crops, and years.

Northern Great Plains farmers, in the summer of 1961, faced their most serious drought since the 1930's. They lost not only expected profit from grain crops, but also the money in-

(See *Stabilization*, page 111)

Looking at our Agricultural Land Resources

by **GEORGE ENFIELD**, Agricultural Programs, Federal Extension Service

AMERICA'S agricultural land resources are so vast that it took 30,000 people to get the facts for the current National Inventory of Soil and Water Conservation Needs.

What these people found out is of importance to every farm family, to all of rural America, to the Nation. Here for the first time is a consistent, statistical sampling of the kinds of soils, slope and erosion conditions, and present land use in 3,000 counties. It is also the first time that all creek-size watersheds have been sized up and counted.

This Inventory by the U. S. Department of Agriculture gives estimates of land use change to 1975. There are separate reports for each State. Original data obtained in the Inventory have been recorded on punch cards. This makes it possible to quickly summarize data by any combination of land resource area, or political subdivision.

A Conservation Needs Inventory Committee in every county surveyed determined the data to be entered in the Inventory report. Each committee was made up of representatives of all agencies concerned with land use and conservation in the area.

People and the Land

Although most U. S. citizens live in cities and their suburbs, most land resources are in rural areas. And most of our renewable natural resources are on private agricultural land.

Wise use of this land to fit present and future needs is of continuing concern. Despite the great progress that has been made in soil and water conservation much remains to be done.

- About two-thirds of all agriculture land need some kind of conservation treatment.

- Sixty-two percent of existing cropland, or 272 million acres, need conservation treatment.

- A total of 101 million acres to be

shifted to new uses by 1975 will need conservation treatment.

- Almost three-quarters of non-Federal pasture and rangeland, or 364 million acres, need conservation.

- More than half of non-Federal forest and woodland, or 241 million acres, need conservation treatment.

If the conservation needs shown by the National Inventory are to be met, a total private and public investment of nearly \$50 billion will be needed. Of this sum about \$33 billion will be needed for conservation work on cropland to solve problems caused by erosion, excess water, unfavorable soils, or adverse climate. Around \$10.5 billion will be needed for conservation measures on pasture and rangeland. About \$6 billion will be necessary for establishment or improvement of farm woodland and commercial forests.

If this work were carried out over a 20-year period, the average annual conservation expenditure of \$2.5 billion would equal nearly 10 percent of present annual farm operating costs.

Such an expenditure would be about 20 percent of the current net income from farming.

Current annual investment in conservation work on agricultural land is estimated at \$750 million.

Two-thirds of the Nation's small watersheds need communitywide projects to deal with flood and water management problems. These watersheds include about half the total land and water area of the 48 contiguous States.

There are more than 12,700 of these creek-size watersheds. About 8,300 need project action to deal with problems requiring treatment beyond the means of individual land owners.

A water disposal problem on one farm may be a flood problem to another. Erosion on one farm may turn out to be a sediment problem to the farm downstream.

Each of these small watersheds includes the farmland, woodland, and grassland from the streambanks to the surrounding ridge line. They in-



Outdoor recreation activities, expected to triple in the next 40 years, will demand more land, both public and private, devoted to camping and related uses. Area pictured is in Shoshone National Forest, Wyoming.

clude villages and urban areas as well as agricultural land.

Technical and cost-sharing assistance is provided to State authorized community organizations in developing projects through the Watershed Protection and Flood Prevention Act. Small watershed flash floods cause more than half the Nation's estimated \$1.2 billion average annual floodwater and sediment damage.

Land to Spare

Despite our growing population and increasing demand for farm products, cropland acreage is expected to decline 3 percent by 1975.

Nearly 240 million acres of land now in pasture and woods is physically suitable for regular cultivation when needed. There are 637 million acres suitable for regular cultivation (class I-III). Another 169 million acres are suitable for occasional cultivation with intensive protective measures.

Though the U. S. is not land-short, our land use leaves much to be desired. For example, in 1958, we were using 25 million acres for crop production that has been classed as unsuited for this purpose.

In addition, nearly 49 million acres used for crop production were class IV. These lands are not suited for cultivation unless complex conservation measures are applied. It is doubtful whether more than a small part of this acreage was receiving such protection.

In considering agricultural land resources there are some basic points to keep in mind:

Population growth is the most important single factor in determining total requirements for land and water resources. The U. S. population, now 186 million, is expected to reach 230 million by 1976 and 350 million by the year 2000.

Requirements for water and the desire for outdoor recreational facilities are creating new demands. The Outdoor Recreation Resources Review Commission, in a report to the President and Congress on "Outdoor Recreation for America," says:

"Outdoor recreation activity, already a major part of American life, will triple by the year 2000. . . . Private lands are a very important



part of the supply of outdoor recreation resources."

The Nation is growing more conscious that our renewable natural resources are a heritage beyond price. The willingness of both rural and urban people to assure this heritage for the needs of today and tomorrow is evident on every hand.

There are more than 2,900 locally-managed soil conservation districts. Farmers throughout the land are cooperating in the Agricultural Conservation Program, and some 300 small watershed projects are underway.

Conservation concepts of the 1960's are interrelated. Wise land use has multiple benefits. The farmer who keeps his fields from washing benefits more than himself. He is reducing the silt load that many small watersheds contribute to the Mississippi, the Ohio, and other great rivers.

But he does more than that. Less silt means clearer waters for domestic and agricultural uses, for fishing, and for other outdoor recreation. And good water is essential to many industries.

Productive farm woodlands contribute to local industry and employment.

Good range and pasturelands help sustain our livestock industry, which in turn, contributes so much to our high nutritional standards.

The way we use the land and related resources and the steps to assure their continuing use affects all Americans. A neglected campfire can devastate a watershed. Over-pumping of underground water supplies can turn cropland into a desert.

Insects and diseases continue to take a heavy toll of row crops, field crops, pastures, ranges, woodlands, and forests. Control and eradication of these are also part of conservation.

The very air is part of the conservation picture. Air pollution in metropolitan areas not only threatens the

health of people in those areas, it also damages crops in adjacent farming areas.

As envisioned today, land use and conservation is a total job. Each part fits in—the farm pond and the big reservoir, dollars from recreation, and dollars from crops.

The productive capacity of our natural resources and the ability of our farm people to utilize them would make a winning combination in any country.

Our renewable natural resources are one of the great strengths of America. Their care and wise use are essential to the growth of our economy and to backing other free nations.

Guide to Extension's Conservation Responsibilities

The wealth of a nation depends upon natural resources available to it, the determination and resourcefulness of its people, and the efficiency with which people conserve and use resources for the common good. The attitude of government toward resources is a critical factor. Few resources can be considered an individual's exclusive concern. His actions affect the lives of his neighbors and the lives of future generations.

Resource programs require two things that few individuals can give: Continuity over a long period, and full recognition of all the interests involved. For strength and security, our nation needs farsighted action programs in the conservation and development of resources.

Such programs will necessarily have a large element of group action in them. Success will depend on motivating people, involving them in policy-making, and stimulating them to act together for the common good.

Here the Extension Service has a unique opportunity. It can help individuals with their own problems of resource management. It can supply leadership and experience and specialized knowledge for community and regional resource programs. It can also develop a wider appreciation of the economic and recreational values of natural resources among all the men and women and young people it reaches in its other programs. ■

Aims to Benefit All Citizens

by CHESTER E. SWANK, Consumer Marketing, Federal Extension Service

REGARDLESS of where he lives—crowded city, spreading suburb, or fertile farmland—every American reaps the benefits of work carried on in the U. S. Department of Agriculture.

From the very beginning, USDA has been "the people's department." And today, 1 out of every 10 USDA employee is primarily assigned to protecting or advancing the consumer's interest.

In signing the act creating USDA, Lincoln spoke of it as "the people's department." Recently Secretary Freeman said, "That phrase is even more appropriate today in many ways than it was in Lincoln's time, for ours truly is the people's department. The services which agriculture performs in food and forestry are of direct and primary benefit to the consumer . . .

"The Department of Agriculture is concerned with far more than agricul-

ture—even though its primary responsibility is to insure a healthy and productive farming economy as a means of providing an abundance of food and fiber to feed and clothe the nation . . . The Department of Agriculture carries out more activities which are of direct benefit or indirect service to the consumer than any other department or agency in the federal government."

Freeman also said, "It is about time to begin the organizing and coordinating of the many and varied services which the Department performs for the consumer as a means of first, insuring vigorous action be continued to protect and advance the consumer's interest where the Department is responsible; second, of providing more adequate information to consumers regarding those services they can get and should expect to obtain; and third, of pinpointing the need for ad-

ditional services at the time the need arises . . .

"Over the next 100 years, I suspect that this Department will continue to become an even more familiar and integral part of the daily life of every American—whether on the farm or in the city—in the services it performs and the responsibilities it discharges."

Savings through Efficiency

The people in the United States have the highest level of living the world has ever seen. One important reason for this is the modern farm production and marketing which provides a basic requirement for good health—nutritious, wholesome food in plentiful supply at a relatively low price.

Most people of the world spend half or more of their disposable income for food; we spend about a fifth. Thus, we have more income left for the products of industry, housing, medical care, education, and recreation.

Rapid improvement in technology and increased efficiency on the farm have resulted in fewer people being needed on farms to produce our food. This releases workers to produce other goods and services which have helped raise our standard of living.

This tremendous increase in efficiency has also resulted in a lower real cost of food to consumers. Prices paid by consumers for all goods and services rose 28 percent from 1947-48 to mid-1961. Food prices during the same period rose only 21 percent.

The relative stability of food prices—compared with other goods and services—actually kept the overall cost of living from rising more than it did.

Not only can consumers now buy their food requirements at a lower real cost, but they can also buy the safest, cleanest, most wholesome food in the world. This has been possible to a large extent through better quality measurements and protection of food through USDA activities.

Just as consumers can accept pounds and quarts as measures of quantity, they can accept terms such as "U. S. Grade A," "U. S. Choice," and "U. S. Fancy" as measures of quality.



The National School Lunch Program and the Special Milk Program serve the double duty of improving national dietary levels and expanding food markets. The Food Stamp plan and other USDA programs are also designed to serve consumers by helping improve diets and making plentiful foods available for good use.

Many people think of USDA research as primarily aimed toward increasing production of agricultural products. Yet research has made it possible to have foods in greater variety, of higher nutritional value, and at lower real costs.

Consumers are constantly receiving the benefits of this research. They can see it in the quality of food they buy.

People have learned to eat more meat, milk, eggs, and vegetables which help to improve their diet. But few realize how much research went into developing good eating quality and food value in new varieties of crops. Taste, appearance, and nutritive qualities are among the many tests that a new variety must pass before it is released for commercial promotion. Researchers have helped farmers find ways of producing, processing, and marketing more of these new and improved foods which consumers want.

The efforts of agricultural scientists, who developed modern refrigeration and transportation methods and techniques, have helped to provide the American consumers with fresh vegetables and fruits year-round.

A number of USDA programs are designed to improve national dietary levels and to expand current and future markets for food. Among these are measures to remove temporary surpluses and to help market plentiful foods advantageously.

Donations are made to welfare institutions and to the needy both at home and abroad. The National School Lunch Program, for example, operates in schools having two-thirds of all elementary and secondary school enrollments. This program increases consumption of farm commodities, especially livestock products, fruits, and vegetables. The program provides a lasting influence on national food habits by developing appreciation of a good diet.

Products on Demand

Agricultural scientists, alert to consumers' wishes, are continually coming up with new varieties of food products and methods for processing and packaging them. Their goal is to develop food products which consumers want.

For example, consumers indicated



that they wanted a small, meaty turkey to fit the oven and pocketbook of an average-sized family. In answer, researchers developed the Beltsville small white turkey. Now 1 out of every 5 turkeys grown is a small Beltsville.

Another example is the meat-type hog which was developed to meet consumer demand for leaner pork. The lower fat content in the meat-type hog provides consumers with more protein and fewer calories to fit into modern consumers' food demands.

Scientists in the Department are now working to develop beef cattle with more lean, tender beef, dairy cows which will produce more milk with more solids and less fat, and hens that will lay eggs with longer-lasting fresh quality. Frozen French fried sweet potatoes and citrus and vegetable juice powders retaining fresh flavor and aroma are on the way.

Convenience for Consumers

Utilization research of the Department is designed to put science to work for consumers and farmers. The development of convenience foods by the utilization laboratories and other agencies of the Department has resulted in food products which more nearly meet the demand of consumers. In addition to saving time and effort, these products often cost less.

Frozen concentrated orange juice is the result of a highly-organized scientific investigation carried out in USDA. This and other concentrated fruit juices, potato granules, flakes and flakelets, powdered eggs, and cake mixes are examples of foods which have been developed by research in response to consumer demand.

Food scientists of the Department are working on new processes—dehydro-freezing, irradiation, and



Every working day, in all parts of the country, AMS graders (such as this meat grader) are on the job, determining and certifying the quality of the food and fiber Americans consume.

others—which will provide consumers with still better food which is easier to prepare.

USDA chemists have had an important part in developing techniques for the chemical finishing of cotton. These techniques have made cotton flame-proof, water-repellent, resistant to soil and deterioration, and wash-and-wearable. They have facilitated the development of such products as wrinkle-resistant cotton clothes which lighten the homemakers' ironing chore, longer-lasting collars and cuffs on men's wash-and-wear shirts, and longer-lasting drapery material.

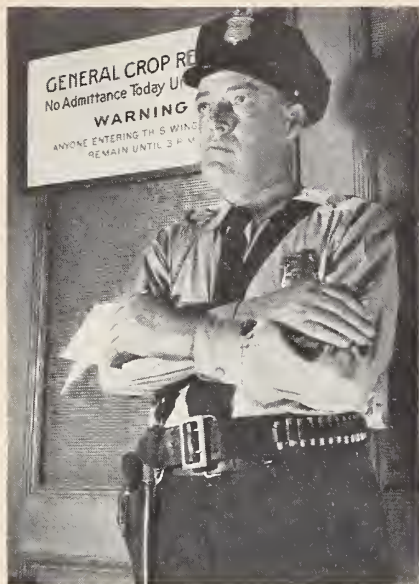
Woolens that wash without shrinking and dry without wrinkling are another product of Departmental research benefitting the consumer.

These are only a few examples of the work which is going on in the Department to provide food and fiber which will give consumers the products which they want and can enjoy.

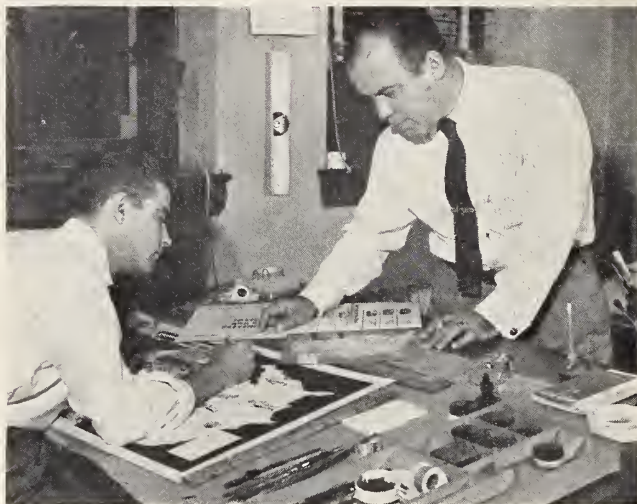
In addition to improved foods and fibers, agricultural scientists have provided us with important products such as the aerosol "bomb," antibiotic streptomycin, and a blood plasma substitute.

(See *Consumer Benefits*, page 108)

Panorama of USDA Serving America



Monthly estimates of agricultural prices and production of the major crops are prepared behind locked and guarded doors at USDA. These reports provide farmers, processors, marketers, and the public with information on the U. S. agricultural picture.



Extension is one of the biggest users of USDA information, according to the Office of Information. Publications, photographs, films, filmstrips, slides, and exhibits based on research and field work are written and illustrated in this office for the general public. Between 30 and 40 million copies of publications are distributed in a year—4 million through the Cooperative Extension Service. The exhibits service adds depth to information materials with 3-dimensional visual aids in 75 ready-to-go shows. About 250 films for free loan are available through 70 State libraries. USDA press releases are sent to some 150 correspondents with more than 5.8 million readers while the radio and television service reaches a vast audience.



Snow surveyors check water content of the snowfall in western mountain areas to determine probable runoff in summer and fall. Research findings disclosed that the melt rate of these snowfields could be increased or decreased by applying different substances to the snow surface. This makes the water more readily available when needed and constitutes a major step toward the solution of water shortage problems.



Prices registered on the trading floor of the Chicago Board of Trade set the pace in the marketing of corn, soybeans, and wheat. Safeguarding the fairness and competition in this trading is the job of the Commodity Exchange Authority.



Fire control is the giant of Forest Service programs promoting good forestry practices. There are now 49 States with 403 million forested acres in the fire control program. Two methods of air attack, developed through USDA research, have contributed dramatically to a decrease in forest acreage burned each year. Parachuting smoke-jumpers near forest fires and dropping retardant solutions from helicopters and air tankers have proved invaluable weapons against forest fires.



The National Agricultural Library contains more than a million volumes and receives hundreds of publications daily from around the world. All are available to the public free through the local library or county agent. If an individual deals directly, photocopies will be provided at cost.



1920's. The community improvement club idea sprang up as a method of extension work in West Virginia. Community councils to give leadership to overall community improvement were promoted in a number of States.

Community Changes

At the same time a lot happened to the rural community itself. The community included not just the town but the area served by the town.

In more recent years, authorities have talked about the rural community passing out of existence as rural people became assimilated into the larger society around them. More and more contacts and relationships are built up by people living over a wider area with larger towns and cities.

A few years ago, Professor MacIver of Columbia University gave a short but meaningful definition of the community—"any area of common life." He meant an area in which a network of human relations and contacts built up around some major problems or common interest, such as watershed protection or economic development.

The definition catches all types of communities, from the local neighborhood and trade-area communities to a county, economic area, region, State, nation, or even the world.

Theoretically, a person belongs to as many communities as there are webs of relations in which he is involved. School districts often differ from trade, recreation, or taxpaying and voting areas. And the area for dealing with a specific economic problem, such as tourism, resource development or regional industrial development, may involve a still different area.

This definition also points up the basis for applying the concept of community development to any situation or program. For in all cases, it is community social action of the people in the area concerned. Total participation is the yardstick, not the size of the area.

Expanded and more intensive community development programs have come on the scene in recent years.

Today, an intensive program of community development through the organization of small community improvement clubs is underway across

COMMUNITY DEVELOPMENT

Old Idea for New Times

by E. J. NIEDERFRANK, Rural Sociologist, Federal Extension Service

WE read and hear a lot these days about community development and related programs.

This is good for two reasons. First, rural people today have more community concerns beyond their farms and homes than ever before. Second, problems can best be solved, frequently programs are most effective, when planned and conducted on a community basis with local leadership.

Fundamentally, community development is the means by which people of an area help themselves in identifying and solving local problems, desires, or needs.

Historical Perspective

Both communities and community development are old ideas. People have always lived in some kind of local group, from primitive villages to town-centered trade-area communities.

Emphasis on local enterprise and initiative in the solution of common problems has been traditional in U. S. rural communities. Early settlers were unable to call on outside help, so progress in the development of community facilities came from local efforts, and usually came slowly.

Agriculture societies, farmers associations, church fellowships, and simple local government all helped to look after community problems in the early days. Ruritan clubs, new county producer groups, granges, and farm bureau township units thrived between 1880 and 1930. Such groups worked hard on getting improved country roads, telephone lines, co-op marketing facilities, health clinics, better school houses, and 4-H clubs.

But as rural life became more urbanized and other changes occurred, additional community needs appeared, and along with them, other ways of solving them.

More and more special interest groups began springing up. Community problems were tackled one at a time on a special interest basis, a major feature of rural social organization today.

Such groups became so busy with their own special problems that communitywide concerns became nobody's business. Local government was looked to more and more for solutions to community problems and needs.

Mixed in with this trend, a wave of overall community organization spread through rural America in the

the Southern States. Several States have 300-500 such organized communities. Three States have nearly 1,000 each, with much extension work channeled through such organization.

In North Carolina there are over 1,000 similarly organized community improvement associations, federated into county community improvement associations, and 10 area associations.

At the same time, improved community councils, sometimes based on the whole county area, are springing up in other parts of the country. Colorado Extension is working intensively on this. In Arkansas, county development councils are being formed which embrace extension program planning, rural areas development, and related development.

New, special organizations to deal with a particular problem on a county or area basis are also increasing. An example is the Southern Illinois Tourism Resource Committee.



Intensive work with selected individual communities, often beginning with study groups, is underway in numerous States. This may be under the leadership of Cooperative Extension, general university extension and adult education, or private agencies. The National Grange and the General Federation of Womens Clubs for example, both have nationwide community improvement contests.

Through the years various governmental programs have also been a major factor in community improvement: county, State, and Federal aid for improved roads and schools; legislation for library improvement and public health services; farm credit programs; extension education, including 4-H; cooperative marketing legislation; rural electrification and telephone service; irrigation, drainage, and soil and water conservation programs; production adjustment

programs; zoning or land use regulations and many others.

Today special emphasis is being placed on rural areas development, area redevelopment, rural renewal, State economic and industrial development programs, small watershed developments. All these efforts contribute to the well-being of people.

Today more programs and activities relating to community development than ever before are going on across the land, under the leadership of the U. S. Department of Agriculture, as well as other Federal and State agencies. Undoubtedly this will expand in the years ahead, as the problems and concerns of people become more related to developments in the larger socio-economic area, region, and the Nation.

What happens in an area when suburbanization takes over and it begins to bulge at the seams with new people? Kurrs Community in Knox County, Tenn., formed a community improvement council to do something about it. Major emphasis was placed on steps to help assimilate newcomers into the community, and to develop total community cooperation on the study and solution of emerging problems. Night classes for farmers to improve agricultural practices, a health clinic, a farmer's exchange service, and a community center were established.

These newer programs also have given rise to various types of organization. Sometimes a program may be best known by its organization. For example, conservation districts, county stabilization committees, rural areas development committees or advisory councils, and county or regional planning commissions.

A significant angle to all these endeavors is that they have included certain common characteristics:

- Attention to overall concerns or problems of the people of an area—community, county, or region;
- Programs based on study and action by the people themselves—the leadership;
- An overall organization through which to operate; and
- Leadership and technical assistance from outside resources.

A pilot project in Iowa on community development has taken the form of areawide work on economic de-



velopment and resource adjustment through the formation of an area organization comprised of several counties. It works with the various county extension advisory councils and other groups. State university specialists have assisted in making surveys and providing technology for new or revised programs. Community councils in several other parts of the State have taught by experienced methods of program and leadership development.

What is community development, then? It is the communitywide group action involved in attaining higher incomes and other values. It is the development of the community as an acting group; it is community social action.

Community development involves the growth of a sense of community concern or problem or standard and the organized teamwork to do something about it. This kind of process may apply to the small rural neighborhood, the trade-area community, the county, or the larger socio-economic area or region, depending on the geographic area of common interest. Thus, the social action undertaken by a county or area resource development committee is truly community development; it is people acting as a total community.

Challenge to Extension

Traditionally, extension work has placed emphasis on the individual farm and home. But the major problems facing farm and other rural people today are far more complex than they used to be, transcending far beyond the farm and home. Frequently, they call for the involvement of not only the overall local geographic community but the county and larger socio-economic area as well.

(See Community Development, page 111)

Supporting the World's Largest Agricultural Export Business

by MRS. AUDREY COOK, Foreign Agricultural Service, USDA

AMERICAN farmers have a big stake in foreign agricultural trade.

- Production from one out of every six harvested acres in the United States is exported.
- American farmers are exporting about 15 percent of their production; only 8 percent of our Nation's non-agricultural production is exported.
- U. S. farm products exported last year would fill 4,000 cargo ships, or more than a million freight cars.
- The weight of U. S. agricultural exports in 1961 was over 42 million tons—about 4 times the combined weight of every man, woman, and child in the United States.

Big exports like these do not "just happen." They are the result of increased foreign demands.

Some of this increase stems from improved economies and higher

standards of living abroad. But positive market development programs and other USDA operations abroad help maintain and spur demand.

The success of these operations—joint government-industry endeavors—shows in the mounting volume and value of farm exports. They have set records for 2 successive years. Exports surged to over \$5 billion in 1961 from only \$2.8 billion 9 years ago.

Selling U. S. farm products in foreign markets is the world's largest agricultural export business. Through the Foreign Agricultural Service (FAS), a service and promotion agency, USDA helps American farmers, traders, and consumers through three broad types of services:

Foreign market "intelligence"—information about activity in foreign markets;

Programs to increase purchase of U. S. farm products abroad;

Efforts to reduce trade barriers so U. S. farm products can enter foreign markets more freely.

Global Eyes and Ears

USDA operations abroad depend heavily on FAS's worldwide agricultural attache service and foreign marketing specialists.

Stationed at 60 key posts around the world, attaches and their trained foreign assistants forward to Washington each year the staggering total of 2,000 scheduled reports, 5,000 spot news reports, and 2,500 foreign publications.

The attaches—often called the "eyes and ears abroad" of the American farmer—deal with over 230 commodities, from wheat to walnuts, and the economies of over 100 countries.

The intelligence network they form provides a constant flow of facts, not only on global agricultural production, trade, and consumption, but also on weather, political and economic factors, and other foreign data affecting U. S. agriculture.

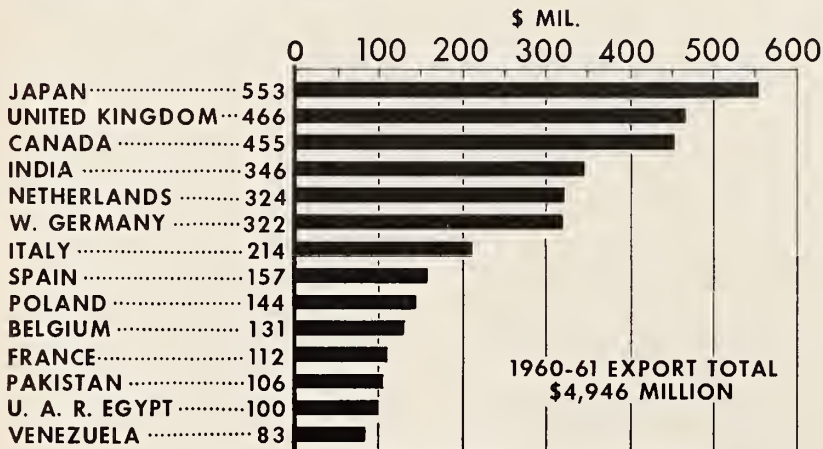
Farmers need to know what qualities in their products are most desired by foreign customers—the varieties that best meet these requirements—harvesting, packaging, and marketing methods that best facilitate foreign sales.

For example, foreign millers are concerned with the baking quality of wheat; textile manufacturers are interested in the spinning performance of cotton; cigarette producers need high-quality tobacco to blend with locally grown varieties. And many countries prohibit import of pork or poultry from areas where hog cholera or Newcastle disease exist.

In 1959, Federal and State Cooperative Extension workers inaugurated studies abroad to further foreign marketing of U. S. farm products.

This year, 4 extension teams, with a total of 22 public affairs specialists, are conducting firsthand studies in 25 countries of Europe, Africa, the Middle East, South Asia, and the Caribbean. Purpose of the studies is to gain a better understanding of foreign food and fiber needs, marketing problems,

71% of U. S. Agricultural Exports Go to 14 Markets



YEAR ENDING JUNE 30, 1961.

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 431-61 (9) ECONOMIC RESEARCH SERVICE



U. S. pavilion at the main entrance to the Paris Trade Fair, was usually the first stop for visitors. On the first Sunday the Fair was open, 7,450 visitors were clocked in a single hour.

and background for a successful foreign trade policy.

Sales for dollars now make up about 70 percent of U. S. farm exports.

A primary job is to help American agriculture not only maintain this level, but expand it. How is this done?

Promotion Programs

“Showcases” abroad: In many parts of the world, U. S. foods and fibers are not well known. They must be introduced and popularized. U. S. agricultural exhibits at international fairs, have attracted over 50 million people since the exhibit program began about 8 years ago.

Cooperative projects: USDA is now cooperating with over 40 U. S. and foreign trade and agricultural groups on market development projects in more than 50 countries. In all promotional activities, from mobile exhibits to market surveys, USDA works closely with farm and industry groups. They share financing, manpower, supervision, and know-how.

Training of foreign nationals: Another vital activity, in cooperation with other agencies and land-grant colleges, is training foreigners who come to the U. S. to study agriculture and related fields.

Gaining access to foreign markets: Embargoes, tariffs, quota restrictions, and other trade barriers raised by other countries still hamper sales of our farm products abroad.

The Department presses for lowering of these barriers by direct, continuing contacts with foreign officials, by participating in such international meetings as those in connection with the General Agreement on Tariffs and Trade (GATT), and by working to protect U. S. agriculture's stake in developments such as “common markets.”

For example, countries of the European Common Market (France, West Germany, Italy, Belgium, the Netherlands, and Luxembourg), are taking down the trade walls that have separated them from each other for centuries. This is creating new problems about entry of certain U. S. farm products. That area of Europe accounted for about one-third of our farm exports for dollars in fiscal 1961. Our government's efforts to keep the gates open to that market are highly important to American farmers.

About 30 percent of U. S. agricultural exports move under Public Law 480, known as the Food for Peace program.

Not only does this program support U. S. foreign policy by helping friendly under developed countries, it also aids the economic growth of such countries. This in turn will eventually strengthen demand for U. S. farm products.

Sales for foreign currencies account for most exports under this program. Much of the currencies received in payment are loaned back to the coun-

tries for economic development. But a significant amount is used to support our overseas operations—especially market development.

Barter of agricultural products for strategic and other materials produced abroad is carried out under this law also.

Long-term dollar credit is granted under Public Law 480 also. Short-term dollar credit is granted through the CCC credit program to American exporters to facilitate export sales when importers need working capital.

Donations of food and fiber to needy countries is another feature of the Food for Peace program.

There's another side to the international trade coin, as it involves the work of FAS—the import side.

Without imports, the American farmer would have no coffee, tea, or cocoa. His wife's spice cupboard would be bare. His children would have no chewing gum.

FAS serves consumers at home by supplying information on quantity, quality, and availability of farm products that we do not grow commercially and on “supplementary” products, such as sugar and wool, that we do not grow in sufficient quantities or of the desired type.

This consumer service also helps to develop foreign markets because countries that supply our import commodities earn dollars which they use in part to buy our farm products. ■



U. S. tobacco, being inspected by this agricultural attaché, will be used to produce Japanese cigarettes. This particular brand contains 25 percent U. S. tobacco.

Rural Economic Assistance Offered for Farm Improvements

CREDIT for financing farm improvements is provided through USDA agencies. Loans to individuals for farm expenses and improvements, and loans to organized groups for electric or telephone service are both available.

Farmers Home Administration (FHA) extends to farm families a full line of adequate credit plus technical farm and money management assistance.

This credit supplements what is provided by private banks, production credit associations, and other private and cooperative lenders. No loan is made to an applicant who can obtain adequate credit at reasonable rates and terms from these lenders.

\$ Plus Management

Loans are made for livestock and farming equipment and annual operating expenses, including livestock feed, seed, fertilizer, and tractor fuel. FHA also makes loans to buy, develop, and enlarge farms; for irrigation and farmstead water supply systems; and refinancing debts.

In addition, farmers and rural residents in small towns may obtain loans to build new homes or to modernize present homes.

The aim of this supervised credit is to guarantee the future of the family farm by producing better farmers and providing the entire farm family with greater opportunity to develop its ability to manage farm and home resources. This in turn stimulates

Daughter of a Michigan FHA borrower draws clean, fresh water in her remodeled kitchen. Water development loans may be made to individuals or groups of farmers and rural residents.



business activity in neighboring towns. In general it helps farm families and the communities of which they are a part make an important contribution to the strength of the national economy.

In areas crippled by droughts, floods, or other disasters, credit is available to maintain farming operations.

Groups of farmers may obtain credit to develop and improve irrigation and farmstead water supply systems and drainage facilities and to carry out soil conservation.

In small watersheds the agency makes loans to local organizations to assist in paying their share of the cost of watershed development. This includes development and improvement of water supplies for municipal and industrial use.

These loans came from funds appropriated by Congress and funds advanced by private investors. Repayment of the private funds is insured by the Government.

State and local technical panels, consisting of representatives of all USDA agencies, provide technical information and guidance to rural areas development committees.

Supervised credit and credit and employment counsel are provided to low-income farm families in areas

where rural communities are trying to strengthen the economy.

Extending Electric Services

Financing loans for low-cost electric service and modern dial telephone service in rural America is the mission of the Rural Electrification Administration (REA).

In addition to making loans, REA offers advisory services to borrowers in engineering, accounting, management, and related fields.

When the agency was created in 1935, only 1 in 10 U. S. farms was receiving central station electric service. Since then, REA has approved more than \$4.5 billion in electrification loans to build 1½ million miles of line serving 5.5 million rural consumers.

Today 97 percent of all U. S. farms are electrified. REA's 1,000 electric borrowers, mostly cooperatives, serve slightly more than half these electrified farms. Nonfarm rural homes, schools, churches, camps, and businesses also seek electric service.

Cooperatives, with which REA works, are generally organized by local farm leaders. These co-ops are private nonprofit enterprises, owned by their members. Such groups, cov-
(See *Credit Available*, page 109)



Ready Statistics for Agriculture's Future

REOrganization of USDA in 1961 saw the establishment of two new agencies emphasizing statistics and economic research. Information in these fields is "bread and butter" to extension workers.

The Economic Research Service conducts research in four broad areas: general economic and statistical analysis, marketing economics, farm economics, and foreign economic analysis.

Outlook and Situation reports are issued several times a year from Washington. They are often adapted by economists on State staffs.

Other studies deal with such topics as: projected needs for farm production; rural health facilities; and economic effects of rural industry, land and water resources, and world food needs.

Farm economics research studies economies of various production techniques; efficiency of production; costs and returns on important types of farms; agricultural financing, taxation; zoning; land use; and adjustments in production.

Noting Markets

Marketing economic research work keeps track of marketing costs and the spread between prices received by farmers and those paid by consumers, improved methods of distribution, the structure of marketing systems, and methods of increasing sales of farm products.

Foreign agricultural analysis is concerned with developments affecting foreign markets for U. S. farm products. This includes factors such as production, prices, finance, and government policies in other nations.

A recent report, *The World Food Budget*, analyzed, for the first time, food supplies and needs for each country. Monthly and annual reports are issued on U. S. agricultural imports and exports.

Gathering statistics was one of the primary tasks assigned to USDA 100 years ago. In fact, reporting of agricultural statistics began before the Department was established.

Measuring and reporting the Nation's agricultural production, supplies, and prices is a major responsibility of the Statistical Reporting Service.

Extension workers, farmers, marketing agencies, and the general public are provided with official facts and figures on agriculture—acreage, yield, production, value, numbers of workers, wages, and prices farmers pay and receive. These crop and livestock reports provide farmers an accurate measure of production and harvest conditions, information vital to orderly production and marketing of farm products.

More than 500 reports a year are issued, incorporating data from more than half a million farmers and businessmen who serve as volunteer reporters.

Their harvest of facts is part of the raw material SRS projects into an



ever-changing master portrait of agricultural production.

County agricultural agents provide most of the crop observations which are incorporated in the weekly *Crop and Weather Report*. This is issued by each State office in cooperation with the U. S. Weather Bureau.

The data from volunteer reporters are supplemented by personal interviews and measurement of plots of crops.

The information is assembled by State statisticians in 43 field offices serving all States. In addition to contributing State data to the National reports, these field offices issue reports for their respective States. Many publish statistics by counties.

Farmers, processors, distributors, and many others use the statistical reports in planning production, determining fair prices, planning purchases, and otherwise helping to keep consumers supplied. ■



The Crop Reporting Board meets behind locked and guarded doors to prepare its monthly estimate of production of major crops. The Board includes Federal and State agricultural statisticians.

CONSUMER BENEFITS

(From page 99)

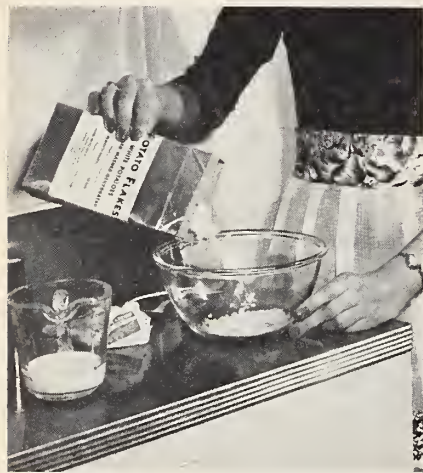
The Cooperative Extension Service is an important link in bringing about the application of research results and other information developed by the Department. While most extension work is of benefit to consumers, home economics work and consumer marketing work relate more directly to them.

Much of the educational work of extension home economics programs is carried on directly with consumers. These programs have made significant contributions toward raising the dietary levels and level-of-living of not only farm families but urban families as well.

Consumer marketing economics programs, part of the total Cooperative Extension marketing program to increase marketing efficiency, have done much to bring about better informed consumers. Through these programs consumers are provided up-to-date, timely, and pertinent information on foods.

More adequate information on consumer demands tends to reduce the cost of introducing new products as it cuts down on the amount of trial and error necessary to provide consumers with the products they want.

In addition to disseminating information from the Department through extension educational programs, Co-



Potato flakes are one of many new products and byproducts discovered by ARS researchers which are improving the level of living for U. S. homemakers.

operative Extension workers reflect back to the researchers in the Department problems needing attention.

It is important that consumers recognize and understand the benefits they receive from the research and educational programs of USDA and the Land-Grant System. ■

100 YEARS

(From page 91)

Years increasing attention was given by leaders toward improving American agriculture. Washington and Jefferson and others both practiced and advocated better systems of agriculture.

Alfred Charles True in his "History of Agricultural Experimentation and Research in the United States, 1607-1925" said: "About 1760 George Washington began to study agricultural problems systematically and to make experiments with a view to determining what was best to do on his lands at Mount Vernon and vicinity. He sent abroad for books on agriculture and carefully read whatever he received. . . . He was especially interested in the conservation and improvement of soils. In the absence of commercial fertilizers he made many experiments with manures, marl, gypsum, a variety of green manures, and deep plowing."

This quest for agricultural knowledge on the part of Washington, Jefferson, the agricultural societies, and other innovators added impetus to agricultural progress in the decades that followed.

The conquest of tick fever of cattle, for example, resulted in eventual conquest of many insect-borne diseases. Work on cattle fever began in the 1880's.

In 1889 researchers from the Department's Bureau of Animal Industry found that ticks transmitted the fever. Then the campaign began to eradicate ticks and, through quarantine, to restrict the movement of infected cattle.

By 1954, the U. S. was virtually free of cattle ticks. And the knowledge that diseases could be transmitted by insects had long since freed many parts of the world of such scourges as yellow fever and malaria.

It is one thing to make a discovery

and another to see that it is put into use. For example, USDA scientists developed the "cultural" remedy to control boll weevils a few years after the pest entered the country in 1892.

The control plan was simply a method of growing cotton so it would mature before the boll weevil could destroy it. But few farmers had adopted the plan by 1902.

That year, Secretary of Agriculture James Wilson adopted a plan, developed by the Bureau of Entomology and the Bureau of Plant Industry, for tackling the problem. One approach—taking the latest methods directly to cotton planters—was assigned to Seaman A. Knapp of the Bureau of Plant Industry.

Demonstration Work Begun

Long experience in agriculture, the State colleges, and private land development had convinced Knapp that farmers could be persuaded of the value of change through demonstrations. These living examples were best carried on by farmers on their own farms, under ordinary conditions.

Knapp put his plan into effect near Terrell, Tex., with the help of local businessmen and farmers. It was so successful that several field agents were employed to expand the work.

In November, 1906, the first county agent, W. C. Stallings, was appointed in Smith County, Tex. In 1910, demonstration work was carried on in 455 counties in 12 southern States.

By that time, boys' and girls' club work and home demonstration work had become part of the program. Demonstration or county agent work was also developing in northern States, under the leadership of the USDA Office of Farm Management in cooperation with business groups and State agricultural colleges.

The work of county agents and support of organizations led to widespread interest in Federal aid. Theodore Roosevelt's Country Life Commission drew national attention to the educational needs of farm people.

The agricultural college association drafted the first bill, which was introduced in 1908. The Smith-Lever Act for cooperative extension work was approved May 8, 1914.

World War I gave a new urgency to agricultural research and education. Food distribution was handled by a war agency, the Food Administration. However, production was USDA's responsibility.

The Food Production Act in 1917 provided for aid in supplying seed, further development of the Cooperative Extension Service, and other activities to encourage food production. County agents became deeply involved in helping farmers secure labor, seed, fertilizer, and other production needs. They were also encouraging the adoption of new and improved methods.

Food helped win the war, but agriculture suffered a depression. In 1929 Congress passed the Agricultural Marketing Act, establishing the Federal Farm Board. This was followed by the Agricultural Adjustment Act of 1933, the Soil Conservation and Domestic Allotment Act of 1936, and the Agricultural Adjustment Act of 1938—all attempting to help the farmer obtain better prices.

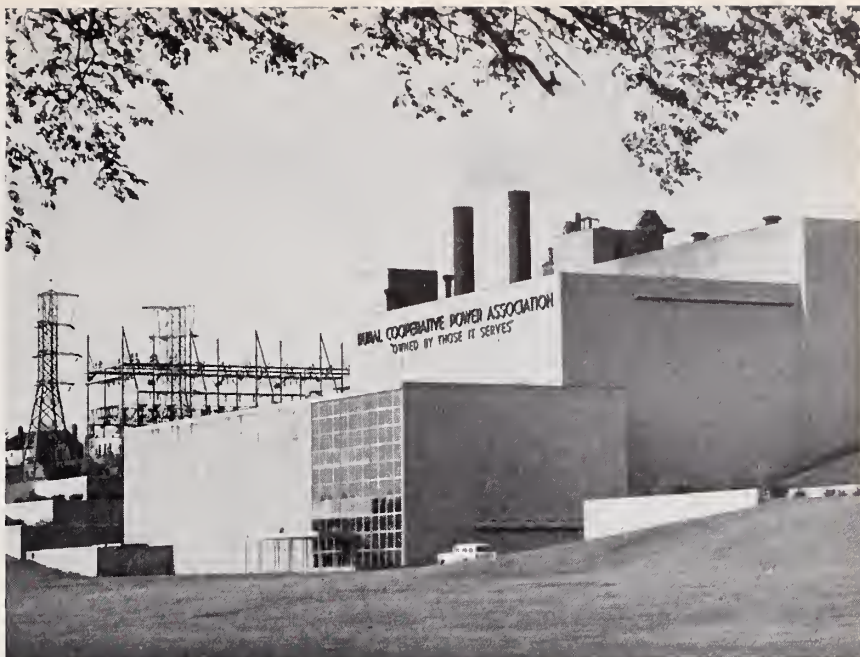
County agents, particularly after 1933, took an active part in explaining these programs, and, in some cases, carrying them out. They also had major educational jobs in connection with soil conservation, crop insurance, rural electrification, and other programs.

World War II made new demands on America's farmers, USDA, and State colleges. The demand for farm products seemed unlimited.

Widespread Progress

At the same time, farm prices increased enough to permit farmers to modernize production. An unprecedented increase in agricultural output resulted from widespread progress in mechanization; greater use of lime and fertilizer, cover crops, and other conservation practices; use of improved varieties; better balanced livestock feeding; and more effective insect and disease control.

These new methods had developed through research over a period of years; county agents took them to farmers. In addition, county agents had important responsibilities for farm labor and for helping farmers increase production.



REA-financed generating plant at Elk River, Minn., produces power for member co-ops.

The Korean War brought, on a smaller scale, some of the same problems. American farmers responded again. Advanced techniques, developed by the Department and the State colleges, brought new advances in productivity.

The 10 years since the Korean War have seen an acceleration in productive efficiency on U. S. farms. The American farmer, with the help of USDA and the colleges, has become one of the most efficient, productive parts of the American economy.

In the 100 years since the establishment of the Department of Agriculture, the American farmer has banished the fear of famine from the U. S. scene. He has freed human and other resources for the demands of trade and industry, thus helping make the U. S. a great nation.

In 1860, one farm worker supplied the farm products needed by 4½ people. In 1950, one farmer supplied 15 people, in 1960 one could supply 26.

The vision of Washington, Jefferson, Lincoln, and Newton has been achieved beyond hopes. Today, the Department stands ready, alongside the American farmer, to meet the challenges of the next 100 years. ■

CREDIT AVAILABLE

(From page 106)

ering wide areas, have made it possible to extend electric service even to remote areas.

REA-financed cooperatives have proved such sound ventures that the rural electrification credit record is practically perfect. In 1961 REA received its billionth dollar in repayment of principal and also marked receipt of \$500 million dollars in interest since the program began.

Today there are more than 500 different uses for electricity around the farm and home. And more are being added daily. Consumption of electric energy on REA-financed lines doubles about every 7 years.

In 1949 Congress gave REA new lending authority—to improve and extend telephone service in rural areas. Since then, the agency has approved \$856 million in loans to both commercial telephone companies and nonprofit cooperatives.

These loans are enabling the systems to extend modern dial service to more than 1.5 million rural subscribers. By January 1, 1962 nearly 3,000 REA-financed dial exchanges had been placed in operation. ■



A USDA scientist at Beltsville uses the electrophoretic apparatus to analyze blood proteins. These are basic nutrition studies with laboratory animals which will lead to a better understanding of human nutrition.

RESEARCH PROGRESS

(From page 93)

ucts to make them more desirable for different uses. We try to find new products that can be grown on the farm and new uses for farm wastes and residues.

New Uses Found

Out of this work have come such important contributions to mankind as the commercial production of penicillin, other valuable medicines and antibiotics, and even a substitute for blood plasma. Fruit juice concentrates, dehydrated foods, flame and wrinkle-resistant cottons are also products of utilization research.

Each year, about 59 million bushels of cereal products go into such materials as plasticizers, packaging films, and fibers. On the basis of products now being developed in our research laboratories, we know that some 140 million bushels of cereals could be required each year to supply these industrial needs.

This type of research has added an estimated \$2.5 billion to the value of major farm commodities over the past 20 years.

Agricultural research is also concerned with human nutrition and the consumer use of farm products. The

first agricultural bulletin giving information about the composition of American foods was published in 1894. The Department provided the first simple daily food guide in 1941.

Just last year our scientists reported that the kind of carbohydrate in the diet affects the way the body uses fat and the level of cholesterol in the blood. As this work is continued our nutritionists will seek more answers on the relationship of fats to the functions of the circulatory system and other problems in human nutrition.

The oldest food law now administered by USDA is the Meat Inspection Act of 1906. It assures consumers a continuing supply of wholesome meat food products. Today there are more than 3,000 veterinarians and trained meat inspectors stationed in almost 1,500 meat-packing plants throughout the country. Each working day, these ARS inspectors keep 1 million pounds of unfit meat from U. S. consumers.

Agricultural Research Service plant quarantine inspectors, stationed at border stations and ports of entry, intercept a plant pest every 20 minutes.

In all these ways, agricultural research is working for every man, woman, and child in the Nation. We can all be proud of the accomplishments in the past. But we must expect even greater and faster progress to find satisfactory solutions for problems yet unsolved. ■

EDUCATION'S CHALLENGE

(From page 94)

build industrial and scientific power;

- Provided a standard of living unequalled in the world;
- Provided food and fiber as a powerful weapon in international conflict and in the Food for Peace program.

Rural people have been dedicated to the spirit of freedom and independence that is basic to our national posture. They have injected a flow of ambitious and industrious youth into the arteries of urban life.

The educational programs of USDA and its sister organizations in the States, closely meshed with research, are generally recognized to have played a vital role in these contributions to the strength of our Nation. And the opportunities in the future appear even greater.

We cannot foresee all the problems and opportunities that lie ahead for rural Americans. Nor can we foresee all the impacts their decisions will have on our agriculture, rural communities, Nation, or the world. But we can see some problems and opportunities that lie in the immediate future, and we can see relationships between these and the USDA educational responsibilities.

Developments in View

The rural economy must be so developed that:

- Production of food and fiber is more nearly in balance with demand;
- Farm families share more equitably in the fruits of our economy;
- Greater economic opportunity is provided for people in rural areas;
- Scarce land and water resources are conserved and developed for future generations, yet used profitably to provide for a variety of needs today (including recreational and esthetic needs).

In solving these problems some people will substantially change their farm organization; some will develop new skills and take up new jobs; new marketing systems may be devised; new institutions will be developed.

There will be much new knowledge to be developed, understood, and applied. There will be great need for the kind of imagination, initiative, innovation, and risk taking characteristic of rural America.

Rural people must so develop their communities, physically and institutionally, to serve the future needs of their changing rural population. In some cases, the rural population may be reduced; in other cases it is sure to be expanded. In all cases the community will be expanded in terms of geography and interests.

Rural people must be prepared to help their youth find, prepare for, and fulfill their proper role in tomorrow's world.

New relationships will be developed between the farm people controlling land and water resources and the urban and suburban populations depending on those resources.

To lead and participate in this development, rural people will need research, demonstration, and other educational experiences. In fact, the experience of working together through these ventures will, in itself, be a notable education.

Perhaps the greatest opportunity and challenge for rural Americans is to learn how to give away their greatest assets while preserving them for their descendants. That is, to give to the people of emerging countries the American ability to produce a high standard of living and the philosophy of independence, freedom, and responsibility on which it is based. Success in this may be most important in insuring the continuation of American institutions.

Greater Educational Services

As rural people face these challenges in the future, USDA has a responsibility to continue to aid them with research and educational services.

All USDA agencies will share in this educational job ahead. But we in the Cooperative Extension Service have a special responsibility to provide educational leadership. And we have other needed and valuable partners in the farm organizations, press, radio, television, firms serving agriculture, and a variety of State and local agencies.

Our challenge of the second century is even greater than the first. ■

COMMUNITY DEVELOPMENT

(From page 103)

Change in the direction of local agriculture developments and relationships with agri-business; need for more income sources; how to obtain larger investments in human resource development to encourage adjustment of people to new job opportunities; need for better understanding of public issues and the situations giving rise to them; adjustments in community services to rapidly expanding suburban situations or in declining commu-

nities; changes in marketing patterns and systems; community factors affecting youth development—these and other problems call for extension work based on the community development process as applied to overall community, county, area, or multi-county situations.

Extension's fundamental objective in such work is development of the ability of the people to identify, analyze, and solve such community type problems leading to the improvement of incomes, community conditions, and family life. And all of this is community development.

A report from Georgia says that the most significant achievement from community development there is the strengthening of motivation and leadership among the people.

Already Extension has made much progress along this line. The door is open; the need is there; the challenge is before us—to continually improve what we are doing and make it more widespread until it pervades the extension work of every county.

The Scope Report of 1958 gives us support for providing more educational leadership in community development as well as do the newer programs in economic development resource adjustment. But even more so do the problems of our people on farms and in towns everywhere. It is to these that extension staff members feel the call. Because we are dedicated first and most of all to serving the people to the fullest extent. ■

STABILIZATION

(From page 95)

vested in trying to produce those crops.

For many farmers in that area, the Federal "All-Risk" Crop Insurance program was a "life-saving" step toward economic stability. From \$6 to \$8 million in indemnities were to be paid to North Dakota farmer-policyholders alone.

With the exception of tree crops and some specialty crops, the insurance covers essentially all production risks. It includes losses due to weather, insects, and disease (when unavoidable).

Quantity and quality of production are guaranteed—not the full amount of production expected. It generally covers the equivalent of the major part of the farmer's investment in the crop.

The system is growing gradually. But there will be crop insurance for 1962 in about 1,000 counties with insurance on 17 different crops.

Wheat insurance, the largest, will be available in 539 counties. Other crops, in somewhat descending order of size, are: corn, tobacco, cotton, soybeans, barley, flax, dry beans, oats, grain sorghums, citrus fruit, rice, raisins, peaches, peanuts, potatoes, and canning peas.

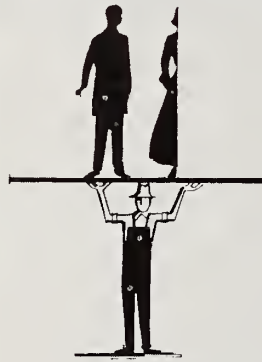
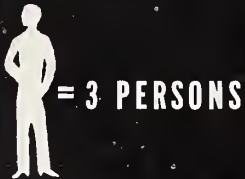
Insurance was extended to 100 new counties this year—the maximum permitted. ■



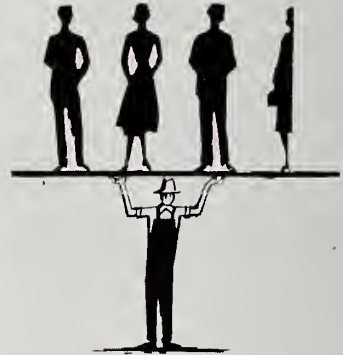
The Agricultural Conservation Program, operating since 1936, annually shares with about a million farmers the cost of conserving and protecting the vital soil, water, woodland, and wildlife resources of individual farms. County ASCS committees are composed of farmers elected by their neighbors.



**Fewer
Farmworkers
Supply
More
People**



1860
4 1/2 PERSONS



1940
10 1/2 PERSONS



1950
15 PERSONS



1960
26 PERSONS