PROGRESS
A Few Steps Forward in
Montana's Agricultural Program
A Report of Progress

More than 2,000 farmers, stockmen, farm women, and others interested in the proper development of the agricultural resources of Montana have taken part in the effort directed by the Montana Extension Service to draw up sound agricultural programs for the different districts of the state and for its counties and local communities. In preparation for the work a bulletin on the “Basic Facts of Montana’s Agriculture” was prepared which included the results of exhaustive studies into the state’s agricultural resources. The information presented in the “Basic Facts” bulletin served as a basis for the work of a series of state, district and county economic conferences at which programs for agricultural development were drawn up.

Many of the recommendations made at the conferences concern phases of crop and livestock production and marketing, and farm home and rural community improvement, all of which have to do with the work of the Montana State College Extension Service. This bulletin presents with texts and illustrations a few of the examples of what the Extension Service is doing to improve agriculture in Montana. No attempt is made to cover the entire field of Extension activities. The purpose is to present a little clearer picture of what the Extension Service is, what it does, and something of the progress that is being made toward the goals set at the agricultural economic conferences.

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Montana State College of Agriculture and Mechanic Arts and United States Department of Agriculture Cooperating
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The Agricultural Extension Service

Cooperative Extension work in agriculture was started in the United States 25 years ago by Dr. Seaman A. Knapp. It is a system of education used by Land Grant Colleges and Universities to carry the teachings of the classroom and the findings of the experiment stations directly to the farmers, farm women and boys and girls of the farms. In a general way, the aim of extension work is to aid in the progress and development of the many lines of activity which come under the broad name of agriculture, that returns for labor and investment may be adequate to maintain a standard of living comparable to that of other pursuits requiring similar talent, labor and investment.

Today, a quarter of a century after cooperative extension work was started, there are more than 3,500 extension agents in the United States. On June 30, 1928 there were 2,318 county agricultural agents, 941 home demonstration agents and 145 county club agents and more than 200 agents have been added since then. In addition there are nearly 300 negro extension agents in southern states.

The Montana Extension Service was started as a departmental unit of Montana State College in 1914. At the beginning of 1929 there are in the state 32 county agricultural agents, seven home demonstration and one county club agent. Thirty-one counties have an organized system of extension work. With the exception of one county with a club agent, the work with young people, which is referred to as 4-H club work, is directed by the agricultural or home demonstration agent. The agricultural agent also does some home demonstration work in a number of counties where there are no women agents.

The Scope of Extension Work

It is practically impossible for any farming area to spring full fledged into the farming system which is best adapted to its particular conditions. By means of experimental and demonstration work and often by the more tedious process of trial and
error, improved systems are evolved. Soil, climate and rainfall are among the natural conditions which must be considered in the development of successful crop and livestock enterprises. Then too, the skill, training, financial resources and other factors of the individual farmer are important. And such physical factors as the size, topography, location and general character of the farm have an important bearing upon the kind of farming that may be carried on with success.

Naturally, any work of the Extension Service must deal with factors which may be remedied. It cannot change the location of a farm or transform a sloping hillside into a level field. It must work within certain limits, but the boundary lines of these limits are far enough apart to provide an extensive field of work. Rainfall cannot be changed but means may be employed to make better use of the amount of moisture available. Even climate may be modified to a limited extent by the use of shelter belts and wind breaks, making it possible to grow certain fruits and vegetables which otherwise could not be grown. Distance from shipping points and markets cannot be altered but production may be centered upon products which by reason of their quality, value and ease of transporting may largely offset the handicap of distance.

Soil Problems

In all agriculture the soil must receive first consideration. Montana is fortunate that, in general, there is no lack of soil fertility. Therefore, there are as yet no general soil problems but there are a number of specific problems which apply to certain limited areas. In the western part of the state, much cut-over land lacks certain elements necessary for plant growth. This lack is supplied by gypsum or land plaster. In the counties of Sanders, Flathead, and Lincoln the extension agents have been active in the distribution of gypsum. In one county more than 360 tons of the product have been used in the past four years and 43 demonstrations have been conducted on farms in different parts of the county to show the value of gypsum. The increased production of alfalfa alone as a result of the use of gypsum in the county is more than 10,800 tons in the four year period.

There are other soil problems in the state, such as alkali soils, water-logged soils, heavy soils, etc., all of which are receiv-
A little gypsum or land plaster makes a world of difference on cut-over land in western Montana. This shows a 200% increase in alfalfa yield as a result of its use.

A spring wheat variety test. One of several hundred of such farm plots where different grains are tried out.

"Elite" seed is the foundation for Montana's crop improvement system. Here is a field of "Elite Oats" produced under the careful supervision of seed specialists.

Montana's seed registration system is recognized as one of the best in the country. It is being copied in many states. Here the county agent is looking over a field of registered grain.
ing the attention of extension agents in the areas where they occur.

**Crop Improvement**

The improvement and standardization of crops are essential to efficient production. The Montana Extension Service, the Montana Experiment Station and the Montana Seed Growers' Association work hand in hand in this field of activity, and as a result the Montana crop improvement plan is perhaps the most outstanding system of its kind in operation in the country.

The crop improvement and standardization work in the state falls into several divisions: first, the determination of those strains and varieties which are best adapted and which produce the desired quality and quantity of product. Experimental work and careful field studies are necessary to make up a list of recommended varieties. Next comes the production of a supply of pure foundation seed stock of the varieties and strains on the recommended list. This supply is obtained in the experimental plots of the experiment stations. The foundation seed is turned over to a few of the best seed growers in the state who increase the supply by planting the foundation seed in small plots which may be given the most careful attention and inspection. Seed so produced is known as “elite” seed. The “elite” seed is made available to other seed growers who still further increase the supply under the regulations adopted by the seed growers association. This seed is known as “registered” seed and is subject to careful inspection both in the field and when sacked and sealed. Much of the registered seed is used for planting fields of “approved” seed, which is carefully inspected by county agricultural agents. “Approved” seed is produced in great quantities and it is this that is used largely for planting commercial fields.

**Developing Improved Varieties**

The work of improving old varieties and developing or discovering new ones also is an important part of the crop work. Hundreds of varieties are tested each year at the Experiment Station. Strains and varieties which show promise are tried out further in nursery test plots on farms in different parts of the state. These tests indicate how the varieties show up under local conditions.
Small grain nurseries located in different parts of the state are means for determining the value of different strains and varieties of crops. This shows a farmer getting ready to plant a nursery.

If the small grain nursery is to tell an accurate story, the utmost care must be used in planting and harvesting. This farmer is harvesting his crop and keeping each variety in separate bags for measurement and analysis.

Farmers in one county developed a good business supplying the demand for registered Supreme wheat. Here they are marketing their first carload.

Like a snowball rolling down a hill. This county map shows what happened in three years after pure seed work started.
Supreme wheat is one of the newer spring wheat varieties and hundreds of tests have been conducted in many parts of the state. It has been found adapted to certain areas and in such areas it is being widely grown, yielding an average of two to five bushels per acre more than Marquis. In one county in 1927, 15,000 bushels of registered Supreme wheat seed were produced and sold in other parts of the state to meet the sudden demand. Estimating an increase of only two bushels per acre over other varieties the seed from this one county added 30,000 bushels to the 1928 wheat crop, not because of more wheat acres but more wheat per acre.

The actual sales of registered seed in Montana in 1927 and 1928 tell the story of the progress made in the state.

**Pure Seed Production**

In 1927 more than 200,000 pounds of registered alfalfa seed grown by 474 growers was sold at an average of 30 cents per pound. The total was about $60,000. 1928 was a good alfalfa seed year and 543 growers sold 600,000 pounds of registered seed at an average of 35 cents per pound, or a total of $210,000. Since registered averages 10 to 12 cents per pound over non-registered seed, the registered alfalfa seed business has proved a profitable enterprise in adapted areas. The greater part of Montana's registered alfalfa seed is sold in other states.

In 1927, seed growers produced 131,479 bushels of registered seed grain which included 46,889 bushels of Marquis and 39,792 bushels of Supreme, spring wheat; 9,327 bushels of Karmoont and 797 bushels of Newturf, winter wheat; 13,062 bushels of Victory and 4,026 bushels of Markton oats; 2,160 bushels of Trebi and 4,362 bushels of Horn barley; 7,764 bushels of flax and 2,800 bushels of rye. In addition 449 growers in the state produced approved seed.

To show what is happening as a result of this effort of the Montana Extension Service, Daniels county in 1922 had one user of Marquis registered seed. He produced a 150 bushel crop of wheat on 10 acres. The increased value resulting from this use of pure seed caused by increased yields and improved quality was $146.50. In 1927 Daniels county had 300 farmers who used registered Marquis to plant 30,000 acres. Three hundred thousand
A registered alfalfa seed grower meeting the county agent at the end of the "open road." The extra horse will be used to cover the remaining 15 miles to the alfalfa field which is to be inspected.

A group of farmers examining a field of registered alfalfa. The alfalfa seed business is making progress in Montana because the quality is high and because it fits in well as a cash crop on remote farms.

Here is a warehouse used by cooperative marketing association for handling registered alfalfa seed.

Successful grain production depends largely upon tillage methods. The farmers here are examining tillage implements.
bushels of wheat were produced on this acreage at an increased value of $90,000.

Richland county had three users of registered Marquis in 1923 who used it to plant 17 acres. Two hundred and forty-seven bushels were produced with an increase in value of $76.50 over a similar acreage if planted to common seed. In 1927 the registered seed users had increased to 600, the acreage to 60,000, the yield to 1,200,000 bushels and the increased value to $120,000.

In Pondera county, where pure seed work has only recently started, sales of registered seed to farmers in 1927 were as follows: 200 bushels of Victory oats, enough to sow 130 acres; 750 bushels of Markton oats, enough for 500 acres; 729 bushels of Marquis wheat, enough to sow 910 acres; 181 bushels of supreme wheat, enough to sow 220 acres; and 1,545 bushels of Trebi barley, enough to sow 1,545 acres. Thus in one year enough registered seed was sold to farmers to plant 4,500 acres.

The Montana Seed Growers Association, which is made up of the growers of registered seed in the state, listed two registered alfalfa seed growers and no registered grain growers in 1919. In 1928 there were 543 growers of registered alfalfa and 325 fields of registered grain. In 1928 there were 14 farm nursery test plots of winter wheat, 41 of spring wheat nurseries and 250 field variety test plots on farms in different parts of the state.

Tillage methods play an important part in crop production and the Extension Service has done much to extend practices and introduce implements which have been found to give best results. The duckfoot cultivator has become one of the chief summer fallow implements, doing the work cheaply and effectively. In central Montana, where soil blowing and winter killing are listed among the chief hazards, the furrow drill has become a common implement for planting winter wheat and as a result the risk has been greatly reduced.

Reducing Production Costs

Since it is recognized that many areas of the state are especially adapted to wheat production and that many farmers will continue to grow wheat as the main source of income for many years to come, much effort has been directed toward reducing the cost of wheat production that Montana farmers may meet the strenuous competition of other wheat growing areas.
Seed planted in furrows such as these has a better chance to come through the winter than where it is planted in the old manner. The furrow drill is coming into wide use in the winter wheat area.

This illustrates the difference between stands of surface-drilled and furrow-drilled fields. The field at the left with its many bare spots was surface planted. The furrow drill was used at the right.

The duckfoot cultivator simplifies and speeds up summer tillage operation on many farms.

Date of seeding winter wheat makes a big difference. The field at the left was planted too early, that at the right, at the recommended time.
Farm experiments with different kinds of machinery and equipment have been carried on; methods used on some of the most efficient farms of the state where production costs have been lowered from eight to twelve man-hours per acre to as low as two and a half man-hours per acre have been studied and the results and information so gained have been taken to the farmers of the state. The results of these activities of the Extension Service cannot be measured accurately but it is significant that Montana is making as rapid strides as any state in the adoption of modern methods of wheat production. The introduction of new labor-saving machinery has been marked and rapid in the last three years. In movements of this kind there is always danger of the pendulum swinging too far. The new-type, large-scale, machine farming is spectacular and arouses enthusiasm. It is best adapted to certain localities where fields are level, soils are uniform and climatic conditions permit even growth and ripening of the grain. The Extension Service is endeavoring to prevent over-stimulation of this type of farming particularly in unadapted areas and at the same time it is making every effort to direct the movement into proper channels in areas where large-scale machine farming methods fit in exceptionally well. The work of the state institution in this field does not indicate an abandonment of the ideas of sound diversification, it merely means that the great number of farmers who grow wheat and will continue to grow wheat are entitled to as much assistance as may be given to enable them to put their operation on an efficient, money-making basis.

Greater Returns from Better Quality

With this end in view, the Montana Extension Service is directing work in crop improvement, that the quality of the state's produce may be of the highest.

The system of crop improvement already has been discussed. However, the effort goes beyond production. When quality products are produced the Extension Service also is concerned with seeing that the producer gets the best possible return for those products. Much high protein wheat is produced in Montana. In recent years wheat of above-average protein content has commanded a premium. To develop means of testing, storing, handling and marketing high protein wheat so that the premiums are reflected back to the farmer has been a vast undertaking. The first
The header barge cuts down the cost of the wheat harvest. The barge when filled is pulled to the desired place and the headed grain left in a stack suitable for threshing.

Using converted binders for windrowing a field of unevenly ripened grain. This will be threshed later by a combine with a special "pick-up" attachment.

The combine is one of the greatest harvest labor-saving devices. There were approximately 1234 of them in the state in 1928.

A field of grain must be sampled and tested for moisture before it is safe to use the combine. Part of the sample may be used for a preliminary protein test.
step was to secure daily market reports which showed the premiums being paid for wheat of different protein content. Then it was necessary to impress wheat growers with the importance of the premium and the steps that must be taken to secure it. Grain had to be sampled and the samples sent to a testing laboratory so that the farmer would have accurate information on the quality of his wheat and would be in a better position to bargain. As a result of the increased demand for testing service in five years the number of laboratories for testing grain have increased from two to nine. In 1923 there were 846 protein tests made in the state; in 1925 there were more than 25,000 of such tests.

These figures are a good index to what has been accomplished in improving wheat marketing systems. A series of meetings in important wheat growing centers in central, northern and eastern Montana in the summer of 1928 did much to bring information on marketing high protein wheat to farmers.

Certified Seed Potatoes

Montana has gained a nation wide reputation for the quality of its seed potatoes. Back of this quality, of course, is the fact that Montana has the soil and climatic conditions which produce high quality seed potatoes, but it has required an organized effort on the part of the Extension Service, the Experiment Station and the Montana Improvement Association to make it possible for farmers to get a return from these resources. It has been necessary, for instance, to standardize on two principal varieties for seed production—Bliss Triumph and Netted Gem—and it also has been necessary to organize testing work to locate superior strains of these varieties. Along with this there has been developed a system of inspection and certification by which means quality is maintained. Only potatoes which are grown under the strict regulations of the Montana Potato Improvement Association are open to inspection and only those potatoes which have passed inspection may be certified. As a result of the high quality thus established and maintained Montana certified seed potatoes are in demand and bring a substantial premium over table stock.

The entire development in this business has come in the last few years. In 1923 there were 37 growers in 17 counties with a total of 115 acres that passed the inspections necessary for cer-
It takes careful work to keep Montana seed potatoes up to their high standard and free from disease. Here is a test plot in one of the counties where growers can observe results from different methods of treating seed.

A few "off-type" plants in a potato field will cause the certification inspector to pass up a field. Careful roguing is necessary before potatoes will draw the "blue tag perfection."

The grower must know about potato diseases. Here is a small field meeting with a specialist illustrating different ones.

Buyers come from afar to look over Montana's seed potatoes. It is because Montana growers know diseases, know how to rogue and know the value of growing only the best strains, that buyers come back year after year.
tification. In 1928 there were 193 growers in 34 counties, with a total of 1,891 acres, who met certification requirements.

This growth has been made possible because Montana produces superior seed potatoes and because commercial potato growers in other areas have been advised regarding Montana potatoes. Much of the advertising which has brought about the present demand is the result of activities directed by the Extension Service and the Experiment Station. Cooperative tests arranged by the horticultural department at Montana State College and carried on by experiment stations in other states have made it possible for growers in other states to find out about Montana potatoes. Exhibits at shows and farm demonstration plots all carried on cooperatively in other states and sponsored by the Montana institution have been other means of carrying the word of Montana potatoes to commercial growers.

The work of inspection of seed potato fields, of familiarizing growers with the principles of production, holding down disease, roguing, producing potatoes of the desired size, handling, packing and shipping, has been carried on largely by the Extension Service and cooperating departments at Montana State College.

**Tree Planting**

The work in horticulture also includes various activities dealing with fruit growing, tree planting on farms, and different lines of effort connected with the production of garden truck crops. Shelterbelt work is of particular interest. The first farm shelterbelt was put out in 1916. Since then more than 750 demonstration shelter belts have been planted on farms in the plains counties. The demonstration shelter belt work is carried on by the Extension Service with the cooperation of the Northern Great Plains Field Station, Mandan, N. D.

Recently a state-federal nursery has been established at Missoula under the federal Clark-McNary Act and trees are furnished to farmers at cost, the distribution being handled by county agricultural agents. The early demonstrations proved that with proper care, tree plantings may be established on farms even in some of the poorer agricultural sections, and there is an ever increasing demand for trees. The first distribution of nursery stock from the Missoula nursery was made in 1928, when 55,389 trees were put out. There are 260 applications totaling 271,011
Fertilizers affect growth and fruit and bud development in the orchard. Here the county agent is checking up on a fertilizer test.

Shelter belts are transforming many windswept farms into comfortable homesteads. Hundreds of shelter belts have been ordered through the Extension Service for 1929 delivery.

Mormon crickets destroyed crops valued at $120,000 in a part of western Montana in 1926. Here is a trap in an irrigation ditch which helped reduce their numbers in 1927.

The march of the crickets was often interrupted with poison-filled trenches like these. Not many got beyond the trench.
trees on file for delivery in the spring of 1929. Many more applications were received but the supply of trees available is not sufficient to meet the demands. At the beginning of 1929 applications already are being received for 1930 delivery.

The Effort to Reduce Losses

The farmer's effort, whether he produces crops or livestock, must always be directed toward taking the fullest possible advantage of conditions that are favorable and minimizing the effect of those that are unfavorable. Every extension activity deals with one or the other of these two phases. One of the major activities of the Extension Service is in assisting farmers to avoid or reduce losses from injurious insects, diseases, rodents and predatory animals.

Insects a Constant Menace

Insects are an ever-present menace. Grasshoppers, cutworms, crickets and a host of other insect pests that thrive upon the products of fields and gardens must be given attention. Scarcely a year goes by without a major outbreak of some destructive insect pest in some part of the state. During the two-year period 1927-28 farmers have appealed to the entomology department at Montana State College for advice and assistance in controlling more than 180 different kinds of insects that are destructive to crops. Every years the extension entomologist with the aid of the State Board of Entomology and the department of entomology at the College prepares a map, based upon careful investigation, showing localities where serious outbreaks of some of the more destructive insects are likely to occur, that county agents and others may prepare in advance to combat the pests. An accurate record of all insects is kept at the College showing when and where different ones have appeared. At present more than 2,000 different species of insects are recorded in this survey.

One of the most spectacular battles ever waged against insects was carried on against the Mormon cricket in western Montana in 1926, 1927 and 1928. The cricket had been gradually increasing in numbers for several years and by the summer of 1926 the situation became most serious. At this time more than 250,000 acres had become infected and in that year the insects destroyed crops valued at more than $120,000. When all local control meas-
Another kind of warfare waged against the crickets. Poison dust guns of the kind used to fight the cotton boll weevil in the south, proved effective.

Mosquitoes are not often considered a serious pest in Montana, but in certain parts of the state they have become more than a nuisance. Here are farmers getting oil to pour on mosquito infested waters.

Ground squirrels or "gophers" are a serious crop pest in many sections. These ranchers are mixing a supply of oats and strychnine which will leave many uninhabited gopher holes during the coming summer.

Properly handled, it doesn't take much poison to kill off an entire family of prairie dogs. Here's a family of nine, that occupied one hole, wiped out with a few cents worth of poison.
ures had failed the entomology department was called upon for aid. It was too late in the 1926 season to organize an effective campaign that year but plans were made to start the work in the spring of 1927. Funds were obtained from the Indian Department and from the one-mill tax levy under the Insect County Pest Law.

It was known that sodium arsenate was an effective poison against crickets. There was, however, but a limited supply of this material in the county and the few tons available were quickly used up when the 1927 campaign started. Investigations to discover other poisons were started and it was found that calcium arsenate was equally satisfactory. Large quantities of this material were available at a comparatively low cost. The campaign started in earnest. Crop damage in 1927 was almost negligible and the insects were so reduced in numbers that scarcely any control measures were necessary in 1928. The total cost of the campaign was $7,500. How much was saved by this expenditure cannot be estimated but even assuming that the work prevented repetition of the destruction which occurred in 1926, it meant saving $120,000 worth of crops which otherwise would have been destroyed, an earning of 1,600 per cent on the amount spent.

Animal Pests are Being Controlled

The control of rodents and other destructive wild life—including ground squirrels, prairie dogs, pocket gophers, jack rabbits, wood chucks, field mice, magpies and coyotes—also is an important Extension activity in cooperation with the Bureau of Biological Survey of the United States Department of Agriculture.

No county in the state is entirely free from rodents or other animal pests which are destructive to crops or livestock. The prairie dog and the ground squirrel perhaps cause the most crop damage. It is estimated that one of these animals will destroy approximately a bushel of grain in a season.

It is not difficult to understand the enormous damage done by these animals to grain fields, pastures and range where they are unmolested. Prairie dogs have been particularly numerous in certain areas but campaigns carried on in cooperation with the U. S. Forest Service and the U. S. Indian Service have practically eliminated the pests from areas that were heavily infested in Custer National Forest, the Cheyenne Indian Reservation, the
Ground squirrels and prairie dogs do serious damage to grain fields and pastures. One of the animals will eat or destroy at least one bushel of grain in a season.

Three years ago this pasture was riddled with prairie dog holes. A poisoning campaign and a good system of management, giving the grass a chance to grow, has restored the field to profitable use.

Coyotes worry stock raisers and poultry growers. This one is a bit peeved because he has his foot in a trap placed at his disposal by a hunter employed cooperatively by stockmen and the U. S. Biological Survey.

Smut takes a heavy toll each year but many farmers hold down losses by treating seed with copper carbonate. Here the county agent is checking up on smut infestation following different methods of treating seed.
Ground squirrels, commonly referred to as "gophers," are perhaps the most serious of rodent pests in the state as a whole. It has not been found practical to completely eradicate these animals in any particular area but by means of using poison bait farmers have found that numbers may be reduced and crop damage held down to a very low point. Approximately 12,000 farmers in the state each year purchase poisoned grain prepared under a U. S. Biological Survey formula and distributed through county agricultural agents. More than two and a quarter million acres of rodent infested land are treated annually through the use of approximately 250,000 pounds of poisoned bait. The poison and its distribution costs about $100,000 annually. The crops saved as a result of this expenditure are worth at least $500,000.

In one county 105,000 pounds of poison have been used since the work was started in 1918 and with a resultant saving of at least a million dollars in crops, according to local estimates.

Predatory animals, such as coyotes, bobcats, bears and others, are a menace to stockmen and growers of turkeys and chickens. Cooperative work in the extermination of these animals between the Extension Service and the U. S. Biological Survey is conducted in many parts of the state.

Diseases Must be Checked

Diseases of animals and plants cause losses totaling great sums each year and constant effort must be made to check outbreaks. Much of the work directed by the Extension Service in disease control is along the lines of instructing farmers and stockmen in the ways of preventing or reducing losses from diseases. In some instances materials needed for control are made available through county extension offices. Plant diseases which are requiring particular attention include the rusts and smuts of grain and diseases affecting fruits, vegetables and potatoes in the field and in storage. Blackleg and goitre of livestock are being effectively controlled in areas where the production of certain kinds of stock was seriously jeopardized a few years ago.

The Livestock Transition

Livestock production has undergone, and is undergoing many changes in Montana. Many areas are particularly favorable for
A group of farmers watching a seed treating demonstration.

Montana's range is valuable but in many cases it can be made more valuable. County agents and stockmen are here looking over an old lake bottom which with a few dollars spent for drainage will make a fine alfalfa field.

The better livestock trains carried the message of livestock improvement to nearly 40,000 farmers and stockmen in 1927 and 1928.

Cutting out a band of sheep with the high wool producers moving on to summer pasture and the low ones marked for the shambles. Ewe culling has increased production in many flocks in the state.
the production of beef cattle and sheep. Fences and plowed fields have brought about a very marked evolution in the production of these animals in many parts of the state. Many who were familiar with the old days of free range and trailless prairies covered with abundant grass looked upon the advent of the farming area as the doom of the livestock industry. Instead livestock plays an even more important part in the welfare of the state than in the early days. Only the problem and methods have changed, Montana still is and probably always will be, a great livestock state.

The livestock work of the Extension Service deals primarily with the transition from the old to the new. In the first great wave of farming enthusiasm much sod was turned that should have been left in native grass. Now the problem of restoring these areas for efficient livestock production is acute.

Restoring the Range

An indication of what is being done is had in the recent cooperative effort between the Extension Service, stockmen and the United States Forestry Service in eastern Montana. Under the provisions of an especially enacted bill in Congress, small units of land, once given over to the homesteader, are being consolidated into large grazing units; range management systems are being started and in this particular area the range is "coming back." There are possibilities of much similar work along this line in other parts of the state and the work of the Extension Service to that end is going forward. Such efforts must of necessity require considerable time but progress is being made.

But there are many more concrete livestock problems with which Extension workers are dealing. Fundamental to successful livestock production in Montana as well as other states is the matter of quality. Success with livestock whether on the small farm or in the larger units, depends upon good stock. Improvement in quality must be fundamental to every livestock enterprise.

Special Trains Tell the Story

With this in mind the Extension Service in the past two years has operated two special livestock trains, one in 1927 in southern and eastern Montana with the cooperation of the Northern Pacific Railroad and one in 1928 in northern and central parts
The small farm flock of sheep is proving a money maker on many farms. Local ram sales and cooperative wool pools are important in the success of these enterprises.

Owners of small flocks bringing their wool in for pooled shipment. Usually bids are asked on the entire pool and prices are much higher than would be obtained for small lots sold by the individual grower.

The small flock owner must use good bucks as well as the large wool grower. Here is a cooperative ram sale with consignments by many of the state's best breeders. Such sales make better breeding stock available to small flock owners.

Checking up weights of pigs in a feeding contest. Hog profits depend largely upon the rapidity and economy of gains. The right feed combinations are determined by feeding tests.
of the state with the cooperation of the Great Northern and Milwaukee railroads. The sole purpose of these enterprises was to demonstrate how quality can be improved in beef cattle, sheep, dairy cattle and swine under the conditions found on farms and ranches in areas visited. More than 40,000 people, most of them farmers and stockmen, visited the trains. As an immediate result there has been an unprecedented demand for better breeding stock in the areas visited and there has been a widespread adoption of improved practices recommended on the trains.

A line of work that is paying good dividends is ewe culling, a practice which many leading sheepmen are adopting. Demonstrations carried on in the past few years with approximately 100,000 head of sheep with the cooperation of wool growers have shown that wool production may be materially increased by systematic effort of weighing fleeces at shearing time, and culling out low producers. An increase of two pounds of wool per head is not uncommon in flocks where culling is carefully done.

A very interesting extension activity in recent years has been the establishment of small flocks of sheep on general farms. Perhaps much of the increase in number of sheep in Montana, from a little over two million in 1921 to more than three million in 1928, is accounted for by the increase in small farm flocks.

Swine Coming In

Swine production still is carried on, on a relatively small scale in Montana but considerable progress in making swine an important part of farming enterprises in certain areas has been made. The adoption of the practice of feeding potassium iodide to pregnant brood sows to prevent goitre and hairlessness in pigs has contributed greatly to successful hog production in Montana.

One of the outstanding examples of how the work with young people, 4-H club work, may influence the agricultural practices in a community is obtained in Fallon county. In 1922 there were few hogs in the county and the few were generally of the nondescript kind. With the assistance of bankers 25 purebred gilts were purchased and a boys and girls pig club with 25 members was organized. In the fall an auction sale was held and enough pigs sold to pay for the original gilts. With this as a beginning a number of farmers of Fallon county now include hog raising as an important part of their farming systems and the quality of
Spaying is one method of culling undesirable beef heifers, making it possible to market them at a profit. This shows a county agent giving a spaying demonstration.

Cooperative livestock shipments make it possible for the small producer to get his stuff to market at the lowest possible cost. Here a livestock shipping association is loading out a car of cattle.

A herd of grade and purebred dairy cattle from which the low producers have been weeded out as a result of the work of a dairy herd improvement association.

Dairymen like other farmers are finding that it pays to find out "how the other fellow does it." Here are a few cars used by a group of dairymen on a tour of investigation.
stock generally is very good. The offspring of the original 25 pure bred gilts are now found on many farms. Fourteen of the 25 club members who started the enterprise are still raising pure bred pigs or the practice has been adopted by their parents.

Similar results were obtained in Hill, Blaine and other counties where substantial hog enterprises have been started as a result of the work of 4-H club members.

**Dairy Improvement**

Dairying is limited to certain favorable areas in Montana and in some of these areas the products are of excellent quality and conditions are favorable for most efficient operation. Extension work in dairying has dealt primarily with the improvement in dairy cattle and working out means for the most efficient production in different areas. In general the attitude of the Extension Service toward dairying has been to encourage it but there have been a few occasions when it has been necessary to restrain movements started by over-enthusiastic believers in the dairy cow. There is rather a general opinion among many well intentioned but uninformed folks, who have a desire to do something to help improve farming conditions, that the dairy cow is the panacea for all troubles, that dairying is adapted to all farms and all farmers and their one solution for every farm problem is "more dairy cows." Unquestionably, in favorable sections, dairying is one of the soundest farm enterprises and deserves full encouragement. But the Extension Service realizes that there are many areas of the state, particularly in dry land sections, where dairying, as the term is commonly used, has no place at the present time. A family cow or two, no doubt, is useful on all farms, but this does not constitute a dairy enterprise.

One of the means employed by the Extension Service to make dairying more efficient in adapted areas is the organization of cow testing or dairy herd improvement associations. There were eight of such organizations in the state in 1927, with a total of 166 herds of 3,185 cows under test.

Each association employs an experienced cow tester whose duty it is to visit each herd once a month, test each cow for milk and butter fat production and make recommendations on feeding and management. In this way dairy cow owners are enabled to know which cows are making a profit and what to do to increase
When 4-H club members put on a dairy judging contest the old folks flock around to help out in case of mistakes. Incidentally, they often pick up a few new ideas.

Good calves make good cows. Here are a few of the hundreds shipped in from Tillamook, Oregon; all from known high producing ancestors and from cow test association herds. Many fine calves of this kind are now available from Montana Associations.

Dairy herd improvement associations in Montana have done much to raise herd production averages. The official records of the associations prove the worth of this cow.

Dual-purpose cows are popular on many farms where the straight dairy breeds will not fit in properly.
production. In one association the average annual production per cow increased from 254.3 to 280 pounds of butter fat in three years; another showed an increase from 261.9 pounds to 310 pounds. One herd, after three years of cow testing work, attained an average production of 488.3 pounds of butter fat. One of the most important results of cow testing work is that it is making available an increasing number of good calves with known high producing ancestors so that farmers and dairymen of the state no longer need to go out of the state for high producing dairy stock.

In the past it has often been necessary to go out of the state to get good dairy stock and hundreds of calves of good breeding and from high producing herds have been introduced into many sections of the state as a foundation for a substantial dairy enterprise. Young people, through their 4-H club work, have had an important part in introducing or improving dairying in many counties. The introduction of good dairy stock by 4-H club members, judging contests, demonstrations, exhibits at fairs and other activities of the young people have done much to stimulate interest in better dairying.

The dual purpose cow finds a place on many farms, particularly in the dryland sections where the typical dairy breeds do not fit in with farming systems to the best advantage. Such cows have been introduced in large numbers in certain sections of the state in recent years and are an important factor in making the dry-land farm more self-sustaining.

Much work is being done to improve pastures for dairy cows and a mixture of various grasses has been developed which is especially suited to Montana conditions. A good irrigated pasture with this mixture has a capacity as high as two cows per acre as compared with the average capacity of five to ten acres per cow for ordinary pasture. One county is now reported to have 3,000 acres of the recommended pasture.

**Poultry Widely Adapted**

The Poultry industry like dairying must be considered from two distinct angles. The poultryman who specializes in egg, meat or breeding stock production has rather different problems from the farmer whose flock of hens supply the family with eggs and meat with perhaps a little surplus for cash sales. The poultry
The right kind of a poultry house has much to do with egg production. This one was not the right kind so they are tearing it down and making it over to conform to the Montana type.

Caponizing is a simple operation to the one who knows how. The 4-H club boy in the picture is showing how it is done.

Turkey marketing time for the local pool. Farmers bringing in their birds to the assembling point where they will be packed and shipped to the highest bidder.

A pool consignment of some of Montana's famous No. 1 turkeys which the grower is bringing in for shipment in the pool.
specialist must select his location carefully with regard to mar­
kets, climate and feed supply, and the effort of the Extension
Service has been to direct development of such enterprises along
sound business lines. Profitable egg enterprises have been estab­
lished in favorable locations close to the larger markets of the
state.

An interesting effort is under way at the present time to
insure the establishment of conveniently located flocks of breed­
ing stock to make good baby chicks available to farmers and
poultry growers. A flock accrediting system is being established
for the state under which flocks which supply hatching eggs for
commercial hatcheries will be tested for white diarrhea and for
egg production. In this way the standards of poultry in Montana
will be raised by making available quality chicks from known high
producing flocks.

Poultry has a place on every farm and even though it may be
considered a side line it must be given the necessary attention
if it is to be profitable. Along with good stock, housing and feed­
ing are important. Montana conditions require a certain type of
poultry house which meet the requirements of temperature, light,
floor space and ventilation for successful poultry production.
Plans for such poultry houses are distributed through the Exten­
sion Service and hundreds of remodeling demonstrations have
been held showing how old unsatisfactory poultry houses may be
converted to the approved type.

Where chickens are raised for meat, caponizing is coming to
be a common practice. Capons make more rapid gains, use feed
more efficiently and reach heavier weights than unaltered birds.
4-H club members through their poultry demonstrations have had
a part in informing poultry growers of how the caponizing opera­
tion is performed.

Montana Turkeys Sold in Pools

Montana turkeys have become nationally famous for their
quality because conditions favor turkey production and because
Montana growers are practicing the principles of feeding, grading
and packing which insure a ready reception on the markets. Many
county wide turkey marketing associations where grading and
packing are supervised and where individual consignments of
many growers are pooled and sold in one lot to the highest bidder
have been established in the state. Through such pools growers
receive from eight to ten cents per pound more for their turkeys
than when they are sold by individual growers. Montana now sells
Pushing back the timber. Hundreds of farms in western Montana have been made more profitable by increasing the tillable area through the use of sodotol and pyrotol to blow out stumps.

A panorama of charred stumps one year; a wheat field the next. Through the use of explosives are farms thus carved out of the wilderness.

Water for stock all summer long if the spring run-off is held back by throwing up a small dyke in the coulee. Inexpensive and simple, but effective.

Often water from melting snows and spring rains may be diverted and used for irrigation. Here the county agent is surveying a flooding system.
about 50 carloads of turkeys a year. There are 17 county marketing pools in operation and approximately 50 per cent of the turkeys of the state are sold through them.

The most encouraging development is the improved quality of Montana turkeys. This improvement is largely the result of the organized demonstrations and instruction made possible by the establishment of producers associations.

**Engineer as Well as Farmer**

The farmer in these days must be something of an engineer as well as a tiller of the soil. In certain parts of western Montana he must know how to handle explosives to aid him in clearing his land of stumps. In sections where land clearing is a problem the Extension Service has directed many demonstrations on the use of explosives for blasting, and farmers have been encouraged to pool their orders for explosives and shipments have been made in carload lots, greatly reducing the costs of materials to the users. In recent years explosives converted from residue war materials have been available to farmers and more than 235,000 pounds of this material have been used in the past eight years, adding at least 10,000 acres to the tillable area of farms and increasing land values by more than $150,000.

The aim of land clearing work has been to enable farmers on cut-over land to speed up their land clearing operations thus enabling them to increase their tillable area to the point where profitable farming units might be established. The aim is not to create more farms but to put existing farms on a better paying basis.

While farmers in western Montana are wrestling with their stump problems, many in the prairie counties are confronted with a need for providing a dependable water supply for livestock throughout the summer. Many of such needs have been met by throwing up earthen dams across shallow coulees, thus holding back the water which normally runs off in the spring and saving it for summer use. Many farms and ranches have used this simple device to solve one of their most serious livestock problems.

In other sections the run-off water is used for irrigation purposes. Instead of allowing the water to pass down the coulee it is diverted and carried down to the pasture, garden or shelter belt by the erection of simple earthen dykes and diversion dams. In this way water which would otherwise go to waste is put to profitable use. Many such flood water irrigation systems have been established at small cost and are proving of real value.
After the survey it is necessary to throw up dykes to provide even distribution for the water. Here an ordinary road scraper is being used for this purpose.

A diversion dam complete and ready for use when the water comes.

Bees are profitable on many farms in the state. Montana honey is high in quality and average yields compare favorably with the best in the country.

With four beet sugar factories, sugar beet production is pushing out into new irrigated areas. Here farmers are looking over a loading device.
Beekeeping is not a major farm enterprise in Montana but many farmers are finding honey production a profitable sideline. The effort of the Extension Service has been largely along the lines of encouraging better care, controlling disease and adjusting production in certain areas, to available acreages of sweet clover and alfalfa, Montana’s chief honey producing plants. Beekeepers at present are devoting much attention to the marketing end of their businesses. Carload lot shipments under a cooperative pooling plan are being encouraged.

**Introducing New Cash Crops**

The introduction of new crops is an important part of agricultural progress, particularly if the crops are of the kind that may be readily converted into cash. In some sections of the state, particularly irrigated areas, the lack of a general cash crop is the main limiting factor to more rapid agricultural progress. It is for this reason largely that development has been slow on certain irrigation projects. The introduction of sugar beets has been one of the most encouraging of recent developments. There are now four beet sugar factories in the state and beet acreage is increasing steadily. With representatives of the sugar companies, extension agents are interested in working out production methods and farming systems which are most profitable.

Among the other cash crops which have been introduced or developed in recent years and are now important in certain areas are, field beans, seed and canning peas, alfalfa and other seed, and potatoes, strawberries, sour cherries, etc. The increased production of specialized cash crops of this kind is one of the most important of recent developments in Montana’s agriculture.

**4-H Club Work**

When the late Theodore Roosevelt stated that “If you are going to do something for the average man you will have to start before he is a man,” he might well have been sounding the keynote of 4-H club work as directed by the Extension Service. Farm boys and girls are taught how to live and how to make a living in a well organized system of practical education. There were 389 boys and girls clubs with 3,830 members in Montana last year. Every club and every member works on some definite farm or home project under the direct leadership of trained local leaders. It is the function of the Extension Service to outline the various projects, to train local leaders and to provide general supervision and direction over the work.
Doing something for the average man before he becomes a man. 4-H sheep club members exhibiting their prize sheep.

Club boys also grow good certified seed potatoes. Not many seconds or culls in this lot.

Young people in 4-H club work have done much to raise the standards of dairy cattle in many communities of the state under their slogan of "Making the best better."

In a number of counties swine production has become a profitable farm enterprise because 4-H club boys paved the way by introducing good breeding stock and demonstrating how local feeds may be converted into pork at a profit.
It is significant that some of the most outstanding agricultural developments in a number of counties and communities in the state have come about as a direct result of 4-H club work and there is scarcely a development of any importance in recent years that has not been greatly stimulated by the work done by young people in this organized effort.

A Swine Industry Started by Boys

In one county the agricultural agent noted an opportunity for developing the swine industry. There were very few hogs in the county and the few were not of the kind that might be used as a foundation for building profitable enterprises. He talked the situation over with a few leading farmers, enlisted the support of bankers and in a short time had organized a 4-H pig club with 25 members. Through a financial arrangement with the banks each boy was provided with one bred sow. The stock was all of one breed and from a prominent breeder of purebred hogs. An auction sale was held the first fall after the enterprise started and enough pigs sold to pay off the note which had been taken out to purchase the original breeding stock. The enterprise was successful in every way. Today, six years later, 14 of the 25 boys are still raising hogs or the offspring of the original hogs are on their parents' farms, as important parts of successful farming systems. Hog production has become a leading farm enterprise and many of the growers trace their stock to the original importations of the 25 club boys.

Another county has become a leading center in the production of pure breed breeding stock because a few 4-H club boys were provided with some high quality brood sows 10 years ago. Four of five members of that club are now in the pure bred swine business and doing well.

In an irrigated area a sugar beet club was started. The boys came through their first season with a tonnage far greater than their fathers. Their average for the season was 18.24 tons as compared with a little more than 12 tons for the district. They used improved methods of production while their fathers grew their beets about as they had always grown them. Unquestionably these object lessons taught by the young people had a very pronounced effect upon the parents.

4-H club boys on at least two occasions have won premier corn growing honors in the state in open competition. In one county the leading approved corn growers are 4-H club members or were formerly in this work. They have entered the certified
Club members know the fine points of the poultry business. Many youngsters like these will be heard from later on. Poultry club work is contributing a large share towards the development of a profitable poultry industry in Montana.

The arts of the home upon which happiness, comfort and contentment depend are not forgotten in the work with young people. Here is a champion sewing demonstration team.

All work and no play—but there are no dull ones here. A group of girls “right in the swim” at a summer 4-H club camp.

If a stitch in time saves nine these young folks will contribute a large share toward making this kind of thrift a habit in Montana. They know how to sew.
seed potato field and are demonstrating a thoroughness and efficiency which undoubtedly will be a big factor in the development of that industry. In sheep, poultry, dairy production and many other farm activities which are important in Montana, young people through their 4-H clubs are making a high mark and at the same time stimulating progress among the older people.

Nor are all the efforts of 4-H clubs devoted to the enterprises of the farm. Sewing, foods and home management clubs are organized in many counties where young folks, particularly girls, receive practical training in the arts and sciences of the home.

**Club Members Receive Training**

Not the least of the benefits of 4-H club work is the training received by the boys and girls in conducting meetings, expressing themselves before audiences and learning the importance of united effort. Club work is carried on, on an organized basis, meetings are conducted according to prescribed rules and all members have definite duties to perform. Clubs and individual members prepare exhibits for fairs and conduct demonstrations and judging contests, all of which not only provide training for the young people but carry the lessons learned in club work to the older people.

**Community Organization**

Farm progress depends to a large extent upon community progress. A common meeting place to serve as a center for social functions and as a forum for the discussion of common problems is a necessity for a well-rounded rural life. Much attention has been given to the organization of farm communities and much progress has been made. In one county every important agricultural community has its club. These community organizations embrace the entire population, men and women, young and old, and, of course, are separate from local units of national or statewide farm organizations, of which there are many.

General community buildings are now found in many parts of the state. In some cases school houses or other buildings are used but in many places the tendency is for the community to build or buy its own home.

The Extension Service can take no active part in the affairs of organizations, that is, extension representatives cannot conduct membership campaigns or serve as business managers or in other official positions of similar nature. The service, however, does support, encourage and aid in every way possible the establishment of such organizations. Through them extension projects
Community life is built around a common meeting place. Here is the home of a farm community in western Montana "built in the heart of a wilderness where trees grow straight and men live and think the same way."

Gatherings at the community center aren't always accompanied by the "furrowed brow." A new "Charley Paddock" may be in the making at this foot race.

The community center is a magnet that attracts old and young. Out of the deliberations of small groups in such places as these are coming the ideas which are making Montana.

When farmers go on a tour the community hall serves as a "Wayside Inn." Here a group of "tourists" are stopping for lunch on a day set aside for looking over seed potato fields.
are made a part of regularly organized community development programs. Out of community societies of this kind come much support for other organizations which aid materially in agricultural progress such as cooperative marketing associations, commodity organizations of various kinds, boys and girls 4-H clubs and others.

**Marketing Receives Much Attention**

While the marketing activities of extension representatives are limited to certain definite lines the work has resulted in some very material progress along these lines. The time and effort spent by county agricultural agents on marketing and other phases of agricultural economics has more than doubled in the past three years. Organizations which owe their existence largely to the assistance and advice of extension agents marketed products with a total value of nearly two and a half million dollars in 1928, resulting in an estimated saving of nearly $200,000 to the producers.

These organizations, 54 of them in 25 counties, had 5,621 members. The business totalled $2,484,738 and resulted in a saving of $189,563 to farmers. In 1924 there were 12 associations with 1,256 members, with a total business of 565,072, resulting in a saving of $51,900. In the 5-year period nearly $10,000,000 in business was done at a total saving of more than a half million dollars. Products included livestock, wool and lambs, poultry and poultry products, alfalfa seed, potatoes, grain, dairy products, seed and commercial potatoes, etc.

**Exhibits Tell the Story**

The success of extension work depends entirely upon the degree of cooperation between the Extension Service, the people on the farm, and the various organizations and institutions in the state. Extension agents work with the farmers along definite lines which farmers and other agree will bring best results. On the theory that "Nothing succeeds like success," displays and exhibits serve a valuable purpose in picturing progress and in calling attention to the successful results obtained by following recommended practices. Farmers who may be inclined to be skeptical as to the value of a certain recommendation often are convinced when they see the results exhibited before them. Educational displays undoubtedly have a powerful influence in effecting better practices and must be considered among the most accessible means of conveying important messages. In Montana not only are the community, county, district and state fairs used by farmers and
In the last analysis, the results of all efforts for improvement depend upon how the "idea" is presented. Such exhibits as these serve a valuable purpose where "he who runs may read."

City folks must be told about the quality of Montana products so they will know what they are missing when they buy the imported kind. A fruit and potato show helps put the message across.

Bulletins are reservoirs of information and there is no lock on the flood gate. Extension publications are read by thousands of farmers in the state. They bring the "how and why" to the farmer.

No effort receives finer newspaper cooperation than does the work of the Montana Extension Service. That cooperation accounts for much of the progress that has been made in Montana's agricultural development.
extension workers to present approved practices and recommendations but there are a number of special exhibits designed solely for the purpose of speeding certain desirable activities.

The State Corn Show, the State Utility Seed Show, the annual exhibit of potatoes, horticultural products and honey at Butte are examples of these. Each is intended for a definite purpose. The corn show, held at a different place in the state each year, carries the message of corn improvement, the development of better adapted strains, means of selecting and caring for seed corn and other important matters which have to do with improvement in the production and use of corn to an ever increasing number of people. The utility seed show, also held at a different place each year, is one of the important parts of Montana’s crop improvement program. At these exhibits facts are brought out regarding the value of pure seed, new varieties are presented and farmers are brought in contact with pure seed growers thus stimulating the use of pure seed. The annual show at Butte is for the purpose of displaying before the people of this city, the largest consuming center in the state, the high quality products that come from Montana’s farms and orchards. It is purely an educational exhibit which is intended to appeal both to the producer and the consumer. To illustrate its effect: when the show was organized five years ago practically all potatoes used in Butte came from outside of the state; in 1928 about 90 per cent of the potatoes consumed in the city came from Montana farms.

After all progress depends primarily upon the efficiency of means and agencies directly concerned with placing information before the people. Unquestionably the printed word is one of the most effective methods of presenting information. Through the medium of extension bulletins and circulars Montana farmers may keep abreast of the developments in those lines of agriculture in which they are interested. These bulletins, indeed, have become the farmers’ text books. In them are found the facts and information which, when coupled with the practical skill and ingenuity of the farmer, spell agricultural success.

Newspapers a Powerful Aid

No mention of the influence of the printed word can be made without a reference to newspapers. How much the press influences thought and action can only be guessed at by the frequency of the use of the words “I see by the paper—.” There is no accurate measure of the contribution of the press to progress. In Montana, from an agricultural standpoint, the press has been of
Health is fundamental and foods play a big part. Here is one way of presenting the idea in a "Milk-for-Health" campaign. Incidentally the exhibits aren't doing the dairy industry any harm.

Proper growth and development in the child determine the strength and vigor of Montana's men and women of tomorrow. Taking weights and measurements of school children to see if they are making the necessary gains.

Foods and cooking schools have a strong appeal. Here is a group demonstrating new and tempting ways of preparing Montana products.

Even in the rural schools children need an occasional check-up in the matter of health. In the absence of a home demonstration agent the agricultural agent is looking after the job.
inestimable value in every activity in which the farmers and their Extension Service are engaged. It is not too much to say that many of the greatest achievements would not have been possible without the cooperation of the press. In spite of other developments in the art of communication the newspapers still stand unchallenged as the greatest and most effective means of "carrying the message to the people." The millions of words appearing in the newspapers of Montana each year answering the questions of who, what, when, where, how and why, about agricultural tests, demonstrations, meetings, fairs, exhibits and the thousand and one activities which together have brought agricultural progress have in a very real sense made that progress possible.

Meetings and demonstrations conducted by the Extension Service have proved their worth in bringing about the adoption of improved methods. In 1928 more than 140,000 people attended extension meetings as compared with 90,000 in 1925. Of the total in 1925 about 24,000 attended demonstration meetings and tours; in 1928 the 742 demonstrations carried on in the state were visited by nearly 50,000 of the total who attended meetings. In 1925 about 10,000 farms were visited by county agents, in 1928 nearly 14,000 of such visits were made. Farmers made 35,000 calls at the offices of county agricultural agents in 1925 and in 1928 there were 53,000 of such calls.

Ultimate Goals

Agricultural development cannot be measured only in terms of increased returns, improved farm practices, and stabilized farming systems. These are not ends in themselves but means to other ends. The ultimate objective is the improvement of the farm home and the farm community to the end that standards of living may be maintained at a satisfactory level. The final measure of progress is in the home.

The home economics division of the Extension Service works with the women on the farms in a cooperative effort to improve farm living conditions. It is clear that the work of home demonstration agents and specialists cannot be measured as readily as that of agricultural workers. It is easy to determine the value of replacing a crop variety with one that yields an average of four bushels more per acre, but measurement becomes more difficult with such things as comfort, health, convenience, labor saving devices, foods, clothing, books, and other matters with which home demonstration work deals.

There is one angle of this work which, while still offering some difficulty when it comes to measurements, does have an
The "clothes appeal is not limited to women of the city nor is the art of designing limited to the fashion centers. These home demonstration club women seem well satisfied with their work.

A few dresses made by a group of farm women who have carried on the extension clothing project.

Handicraft work delights the heart of all women whether in town or country. These Montana farm women are showing the results of their efforts.

Clothes for the youngsters—an ever pressing problem for the mother. The finished articles shown here demonstrate what may be done without the expenditure of too much money, time or energy with organized effort.
appeal from the economic standpoint. Agricultural extension work deals primarily with the efficient management of farm enterprises for the purpose of making money. Home economics work deals with the efficient management of home enterprises for the purpose of getting the greatest possible return for the money spent.

**Women's Work**

The work is divided into the following main divisions: foods and nutrition, clothing and home management, home beautification and mothers vacation camps, each with a number of well organized projects based upon recommendations made at agricultural economic conferences developed by farm women and extension workers. Much of the work is done through organization of farm women known as home demonstration clubs. The latest figures show 251 such organizations in the state with a membership of 3,599.

Foods and nutrition work deals with such matters as the preserving of foods, using Montana-grown products, meal-planning, balanced diets, and special efforts such as “Milk-for-Health” campaigns, and nutrition work among school children. In 1927 more than 1,700 women in 102 of the home demonstration clubs of the state carried on projects in preserving food, meal planning and the selection and preparation of foods from the standpoint of health and economy. In 1926, Milk-for-Health campaigns were conducted in three counties in which the story of the food value of milk was told to more than 17,000 people.

At the Annual Montana Products Show at Butte demonstrations and exhibits play an important part in showing how the products of the farms of the state may be prepared for best results. Many schools of the state are now conducting courses in foods and nutrition in which young people are given instruction in the part that food plays in health and physical development. In one school where this course was started the percentage of under-weight children was reduced from 28 per cent to 6 per cent as the result of one series of school nutrition lessons. The work carried on in the schools is outlined by the Extension Service and is carried on cooperatively by extension agents, school authorities and other agencies.

The matter of clothing the farm family has more than an economic significance because clothing plays such an important part in health and contentment. Hundreds of farm women members of home demonstration clubs were enrolled in extension clothing projects last year and under the direction of extension
Kitchen improvement is just as important to the farm women as farm improvement is to the farm man. Here is one before the lady of the house joined the kitchen contest.

Here's what a little intelligent planning stimulated by the contest did to the above kitchen. Even a man can well appreciate what this means in comfort, convenience and labor-saving.

Farm women also go on tours. Here is a touring party out to get ideas on home improvements.

A comfortable nook and a good book. There is charm and simplicity in this attractive corner, the result of cooperative home planning work. The farm is a place to live as well as to make a living.
workers received practical instruction in various phases of clothing work including the making and remodeling of garments for women and children, studying materials, line, color, design, and modes, and conducting directed shopping tours. More than 1,500 women carried on this work in 1928, and the articles represented a saving of nearly $10,000.

**Kitchens are Improved**

Work in home management deals largely with improvement of the farm home and also is carried on primarily through home demonstration clubs. Since 1924 an effective work has been done to improve kitchens through “kitchen improvement contests.” Such contests have been held, or are being held, in 16 counties. It has resulted in the improvement of 546 kitchens, and seven counties have not yet completed the work. This effort is directed mainly toward making the work of the farm women easier and more effective. Many very marked improvements have been made with a minimum expenditure of money. In this work particular attention is given to water supply and drainage systems, kitchen labor saving devices, kind and arrangement of equipment, light and ventilation. At the start of the contests kitchens are inspected and scored and a similar inspection is made at the close. Local merchants offer prizes to the winners. A tour of all contestants and others interested is held when the contest ends so that all may get the benefit of the many ideas that have been worked out.

Since the kitchen is the place where most of the work in the farm home is done, particular attention has been given to this phase of home management work. However, other similar activities are carried on in cooperation with the Extension Service which apply to other parts of the farm home and the yard. A number of living room contests have been started and in several counties women are working on the improvement and beautification of the grounds about the farm home.

The efforts of farm women in cooperation with extension working are resulting in a progress just as marked and just as important as those dealing with the production enterprises of the farm. The results are everywhere apparent in the counties where the work has been carried on in an organized way. While the results may be difficult to measure they are none the less important, contributing as they do to the health, comfort and convenience of the farm people, without which no enduring agriculture can be established.