



Organization and operation of the Montana Extension Service
by Mamerto B Totaan

A THESIS Submitted to the Graduate Faculty in partial fulfillment of the Requirements for the degree of Master of Science in Agricultural Economics
Montana State University
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Abstract:

American experience in planning and aiding the economic and social betterment of its people has proven a very useful guide to leaders in relatively undeveloped countries. With respect to agriculture and agricultural folk, the United States Cooperative Agricultural Extension Service had much to offer as a model. Not only Eastern Nations, but Western European countries—particularly Scandinavia, Germany and Italy have benefited by a study of American Extension organization and methods. The relatively more undeveloped nations in Southeastern Asia have considerably more to profit by in this area of endeavor Here follows an inquiry-into the Federal, State (Montana is the particular example for this purpose) arid local aspects of the Cooperative Agricultural Extension Service for purposes of suggestion to those interested in promoting an Agricultural Extension Service in less developed countries. For this reason, the description is Organized as follows: "A Brief History of Agriculture and the Evolution of the Agricultural Extension Service in Montana" gives us a perspective of the development of the Extension Service as it grew in response to the needs of farming and farm families in this State.

"The Current Organization of the Montana Agricultural Extension Service" affords a look at (a) the Administrative and Supervisory Staff, (b) the Subject-matter Specialist Staff including the 4-H Club Staff, and (c) the County Agent and Home Demonstration Field Staff.

"The Classification, Description, Discussion of Methods Used by the Extension Service for the Diffusion of Information" describes and classifies the techniques of information diffusion, the various educational methods enjoyed such as, press releases, meetings and office calls.

"A Review of Research Literature Evaluating Agricultural Extension Methods of Information Diffusion" peruses some of the methodology and findings of, research. This is done in an effort to evaluate the effectiveness or usefulness of particular methods and to make some comparison between methods as to their relative effectiveness.

Finally, "Problems of the New Philippine Agricultural Extension Service" describes what is being done in the Philippines to extend agricultural and homemaking information to the farm population and points out some of the problems in applying American and particularly Montana Extension experience to the Philippine situation?. Here the, writer takes the opportunity to point out some cautions with respect to the transferring of lessons from American experience to Ms homeland. He plans to work in the new Extension Service upon his return to the Philippines.

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The Department of Agricultural Economics is contemplating some evaluative research on extension methods. It is hoped that the present paper will furnish some background information, on the Montana

Extension Service organization and some suggestions from out-of-state research about the methodology for, and areas of, profitable inquiry into the evaluation of Extension methods for diffusing information.

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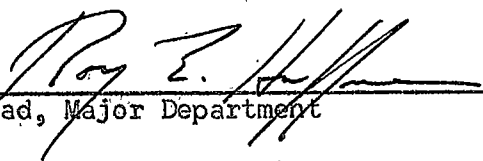
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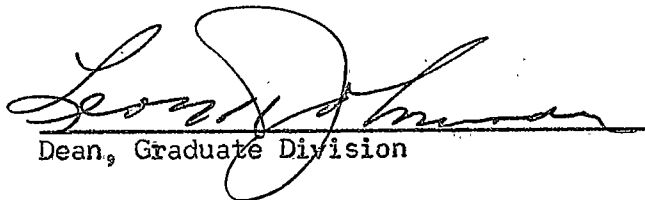
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PREFACE

American experience in planning and aiding the economic and social betterment of its people has proven a very useful guide to leaders in relatively undeveloped countries. With respect to agriculture and agricultural folk, the United States Cooperative Agricultural Extension Service had much to offer as a model. Not only Eastern Nations, but Western European countries--particularly Scandinavia, Germany and Italy have benefited by a study of American Extension organization and methods. The relatively more undeveloped nations in Southeastern Asia have considerably more to profit by in this area of endeavor.

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PART I

A BRIEF HISTORY OF AGRICULTURE AND THE EVOLUTION OF THE AGRICULTURAL EXTENSION SERVICE IN MONTANA

Introduction

Montana is the Treasure State in the United States. It was a part of the geographical territory of the Louisiana Purchase, consummated between the United States and Spain, April 30, 1803.^{1/} Its geographic area was first included in the territory of Idaho between March 3, 1863 and May 26, 1864.^{2/} Eight counties of what is now Montana were created by the first Assembly of Idaho in 1863. Montana became a distinct and separate Territory, May 26, 1864, with Sidney Edgerton as its first governor,^{3/} and became a member state in the Union, November 8, 1889.^{4/}

Explorations

Lewis and Clark undertook the first extensive and official exploration for the United States Government of the northern areas covered by the Louisiana Purchase. They entered what is now Montana on April 25, 1805.^{5/} There were subsequent explorations headed by white men after that of Lewis and Clark. These pioneered the white men's settlements in Montana largely through the formation of the fur trade companies and the mining frontiers which drew the attention of people in the East.

^{1/} Burlingame, M. G., The Montana Frontiers, State Publishing Co., Helena, p. 150.

^{2/} Ibid., p. 151.

^{3/} Ibid., p. 154.

^{4/} Ibid., p. 390.

^{5/} Ibid., p. 5.

The Indian Frontiers in Montana

The Indians were the first inhabitants of Montana. When the historic period of Montana began, the Indians were spread out sparsely in the area. There were several major tribes of Indians, each tribe settled in a clearly defined geographical region of the state, and sometimes extending over into adjacent states or Canada. The Indians had distinct tribal differences of language and customs and their hunting areas were well marked in Montana.^{6/}

The Missouri River and its major tributary, the Yellowstone, during the exploration period, were about the most easily accessible routes for the white men in the northeastern and central Montana area.

The Indians were largely found in the mountains and along the streams that afforded them means of transportation and travel. With the advent of the horse the Indians became more mobile than formerly when the dog was the chief beast of burden. The explorers and the fur traders brought with them certain ways of living that gave rise to jealousies, strife and disease which eventually resulted in disorganization of the Indians way of life and decrease in numbers. Treaties were made among the whites and Indians and between Indian tribes.

These early agreements between the Indian tribes and the white man were important at the time of the opening of the route to the Pacific across Montana. The Montana Indian tribes received food products and other goods each year for a specified length of time as a result of the early agreements with the white men. These goods were known as annuities.^{7/}

^{6/} Ibid., p. 18.

^{7/} Ibid., p. 32.

Agricultural Progress Among the Indians

The way of life of the Indians was a matter of serious concern to the white men. Agricultural activity, and sedentary settlement were considered the solution to the problem of subduing the Indians. From the start the government provided support to the projects designed to further the agricultural education and uplift of the Indians but many difficulties arose. The need for the change from hunting to an agricultural economy came much faster than the Indians could make the transition.^{8/}

Railroads

The coming of the livestock industry, mining, agricultural settlement by the whites and then the railroads to Montana heralded the eradication of the frontier in Montana. The Northern Pacific Railway Company was chartered in 1864.^{9/} Primary concern revolved around securing feasible routes and advantages in desirable townsites. New agreements were necessary with the Indians in order to make possible the land grants to railroads and settlements along the new lines. The ceremony of driving the golden spike, completing the construction of the transcontinental line, took place on September 8, 1883.^{10/}

Later, in addition to railroad construction, highway construction was carried through chiefly from east to west within Montana. The network of railroads constructed across Montana was a distinct mark of a mature

^{8/} Ibid., pp. 189-190.

^{9/} Ibid., p. 146.

^{10/} Ibid., p. 147.

community carrying all the major economic activities utilizing resources in the area.

Beginning of Agriculture

The rapid settlement followed the repeated explorations of Montana. Among the early interests that drew people to Montana were the missionizing of the Indians, fur trading, gold mining, cattle raising, and lumbering, but rarely farming in the diversified manner.^{11/} The first productive farming in Montana was done by the Roman Catholic missionaries at the St. Mary's Mission in the Bitter Root Valley. The Indians felt that the putting of good grains and potatoes in the ground was a sign of the white man's lack of understanding. The Indians protested the first farming that took place in 1842.^{12/} The farming done by the missionaries encouraged Indians to take up farming and settle on or own parcels of land to farm. The white men in providing agricultural products greatly helped the Indians to save themselves from hunger. In places where the Indians carried on agricultural work and in the places where they had been able to trade, they considered the white man's food a blessing.^{13/}

The mining industry attracted many people to Montana. Some of the people who came to the mining areas had agricultural experience, though limited and unadapted for the arid and semi-arid conditions of the state. Some came to establish mining claims and some came to work in the mines

^{11/} Ibid., p. 333.

^{12/} Ibid., p. 333.

^{13/} Ibid., p. 336.

to earn a living. When the best mining areas were claimed and the late-comers found it hard to make money or even a living, they began to look for a plot of ground to farm for a living.. The mining industry had taken one mining gulch after another, but some people were fortunate enough to have taken fertile valleys for agriculture near the mining camps. The conditions in Montana as to altitude, soil, moisture and growing seasons were so different from the regions of the East and Middle West that the settlers hesitated to undertake farming except as a last resort.^{14/}

However, the position of Montana greatly aided the rapid promotion and development of early agriculture. It was in a very favorable situation to supply flour to Idaho mines which were difficult to reach from the Utah region. The first area to be developed for purposes of agriculture was the Bitter Root Valley, where the work of the missionaries at St. Mary's had been established and successfully operated. In connection with trading, general farming operation following 1850 was carried on by the settlers. Strict owner-operated farming was conducted in Montana at first, since the ranchmen were unable to compete with the wages offered by the mining localities.^{15/}

The Development of the Gallatin Valley

F. J. Dunbar is said to have built the first house near the Three Forks of the Missouri in the Gallatin Valley in November, 1862.^{16/}

^{14/} Ibid., p. 337.

^{15/} Ibid., p. 338.

^{16/} Ibid., p. 337.

Large-scale farming was soon found to be best suited to the Gallatin Valley; it eventually became the granary of the territory.

John M. Bozeman was one of the first to make contributions to the development of the Gallatin Valley. In his trips across the Valley in 1863 on his way to mark a route for emigrant trains from the Oregon Trail to Virginia City, he observed that the Gallatin was an exceptionally fertile valley. John M. Bozeman, Daniel E. Rouse and William J. Beall made agreements and arrangements among themselves in 1863 to go to the upper end of the valley where Bozeman observed that better soils could be found. The town of Bozeman, named after the leader, John M. Bozeman, was organized in 1864 and the center of the settlement of Three Forks nearer the head of the Missouri soon moved to the deeper, better-watered soils near the present townsite.^{17/}

Soon after the introduction of productive farming in Montana, the Gallatin Valley farmers made use of agricultural machinery on the farm. An account is quoted from Burlingame:

"In 1865, some twenty thousand bushels of wheat were produced in the Gallatin Valley. Reapers were brought up the Missouri and overland from Fort Benton at a cost of about five hundred dollars (\$500) each. A thresher was brought across the Oregon Trail with great difficulty, but at the price of twenty-five cents (\$.25) per bushel for threshing wheat it proved profitable to its owners... Blessed with an excellent climate, presenting the finest valley system to be found in the entire Rocky Mountain plateau, and possessing a soil singularly fertile and lasting, Montana offers unexceptional inducements to the agriculturists..."

^{17/} Ibid., p. 142.

Land Laws

At the time of the early settlement of Montana, important national legislation was passed. This legislation was particularly applicable in Montana because it insured a balanced land tenure, at least with respect to size of holdings.

The Preemption Law was passed in 1841, allowing the person settling upon land before survey was made to have first claim to it at the minimum price. The settler could take as much as 160 acres and file within three months after a survey had been made.^{18/}

The Homestead Act was passed in 1862, which provided that a person might acquire 160 acres free of any charge except filing fees, which usually were less than a total of \$25.00. The homesteader was required, however, to live upon the land for a certain length of time each year for five years, cultivate a part of it, and make certain improvements. The Homestead Act was not as useful in Montana as the people in the eastern part of the United States hoped it would be, since 160 acres of land was not sufficient for a single family farm except in the most fertile valleys.^{19/}

The Timber Culture Act of 1873, amended in 1878, was passed for the improvement of the Great Plains and to promote settlement. It gave 40 acres to anyone who would plant and care for 2 1/2 acres of trees for eight years, 80 acres for 5 acres of planting, and 160 acres for 10 acres of trees. Because trees were expensive to obtain and difficult to raise, this privilege was little used in Montana.

^{18/} Ibid., p. 347.

^{19/} Ibid., p. 348.

The Desert Land Act of 1877 was passed to encourage settlement in the arid regions. A settler might file on 640 acres of land which needed water to make it usable. He was to pay 25 cents per acre at the time of filing, and when he had given proof within a three-year period that provision had been made for irrigating the land and that a certain amount was under cultivation, he could take full title to the land upon payment of an additional one dollar per acre.^{20/}

The Timber and Stone Act of 1878 was proposed to give each settler who desired it access to timber to use for buildings, firewood and other uses, and perhaps stone for building purposes. It was used to a large extent in the forested region of western Montana. Under this Act a person might file 160 acres of unoccupied, unimproved, surveyed, and non-mineral land for his own use, paying a minimum price of \$2.50 per acre.^{21/}

Montana is very rich in natural resources. At the beginning of the early explorations to the West, the potential resources, soils, waters, ore and oil minerals, forests, plains and valleys were widely known and attracted the early explorers and emigrants. The two important and distinct economic industries are mining and agriculture which along with oil today make Montana the Treasure State of the Union. Both the National and State governments, along with other agencies, seek to encourage agriculture.

The Role of the Government

The State of Montana, aided by Federal Legislative Acts, has established and maintained the institutions and agencies to encourage the

^{20/} Ibid., p. 348.

^{21/} Ibid., p. 349.

development of natural resources. Three state and federally supported agencies, the Montana State College, the Montana Agricultural Experiment Station and the Montana Extension Service, serve the agricultural development of the state.^{22/} The first two were authorized in 1893. The third was created in 1914 by Federal Act and in 1915 by enabling legislation in Montana primarily to extend important services, especially the research findings of the Montana Experiment Station, to improve the conditions of the Montana farmers. In addition there are several state and federally supported field and area research stations that assist in studying agricultural problems and their solution.

Development of Agricultural Education in the U. S.

The idea of extension service was not a new thing, for it had long been in the minds of rural leaders. The Agricultural Extension Service, with the passage of the Smith-Lever Act in 1914, became an institution of the state and federal governments. The extension idea manifested itself in various activities for the improvement of agriculture in the United States. The study of farm problems is recorded in connection with the colonial leaders of America. In these times there were fairs where the latest improvements in farm implements, improved livestock and the best products of the farm and garden were exhibited. At the fairs the farm people saw the best products of the time and also exchanged experiences and views on matters concerning farm improvements and practices.

As time passed the successful fairs created further interests and discussions on farm topics by rural people in their gatherings. Soon

^{22/} Dunbar, R. G., Agriculture, Typewritten, Montana State College.

societies and clubs were formed for the promotion and extension of agricultural progress. Some of the more successful societies had funds for prizes for farm and garden exhibits.

The fairs and the farmers' meetings became popular in the farming areas of the United States. Fair associations were formed, several meetings held during the winter, and annual fairs put on in nearly every county in the more populous rural areas of the state. Out of these fairs and gatherings standardized procedure grew, and a state policy with reference to fairs was established with the support of the State Department of Agriculture.

Nationalism during the early American colonies was more prevalent than it is now. Each state prerogative was guarded against federal encroachment so that most internal policies were subjected to state action. The local and state initiative were almost wholly responsible for the enterprises for the promotion of agriculture. The variety of organizations and schemes led to several different ways of doing things for the advancement of agriculture.

Farmers' institutes were formed and held in the agricultural regions. Conducted as parts of county fairs or as separate local or state activity, they served a large and useful part in the development of American farming. They were media for the dissemination of agricultural knowledge in the United States; rural progress was markedly influenced by them. Farmers' institutes or group discussions in some form may not be entirely dispensed within the promotion of education among farmers.

The rural people continued their quest for a more abundant life. This was shown in the fairs, societies, clubs and institutes. As a result there were established the agricultural colleges which gave full-time employment at public expense to many of the qualified and recognized agricultural leaders. Progress became more rapid with the influence of the agricultural college. The intricacies in fundamental sciences needed in collegiate education led to the association of the experiment station with the agricultural college for mutual agricultural research.

The farming segment of the country made insistent demands for information and instruction on the problems that confronted them. The agricultural college and the experiment station personnel tried to satisfy such demand. This afforded close application of the teachings of the college and the findings of the experiment station to these problems. There were no clear differences in the public mind between the research and the extension work in agriculture. The growing demand from the rural people resulted in the organization of a separate extension staff.

All men are directly or indirectly concerned with the products of the land. The farmers are not the only ones interested in promoting agriculture. Many helpful ideas in farming come from other types of businessmen. They are constantly mingling with the farmers for the promotion and carrying on of agricultural extension. The railroad companies can be singled out as having been very active in agricultural extension work. Usually farming trains were operated over the railroads that carried exhibits, lectures, and demonstrations on several aspects of agriculture. There

were other companies that closely cooperated with the state departments of agriculture, agricultural colleges and experiment stations in the promotion of extension work.^{23/}

Montana Becomes an Agricultural State

The two early leading industries of Montana were mining and livestock ranching. The college of agriculture and the experiment station were organized with meager support and their popularity was not widespread during the first part of their existence. The mining and the livestock industries were hostile toward the agricultural college for a long time. They were independent and even opposed to the development of farming. This feeling was particularly evident among the livestock raisers of Montana. Self-interest was clearly indicated in their attitude toward farming. Farming was antagonistic to the free range livestock business; the less farming, the better for livestock ranchers. Although the development of scientific farming was discouraged by the range industry, many men with extensive livestock holdings encouraged and fostered scientific agriculture in spite of the menace to their own interests.^{24/}

The livestock industry reached its height at the beginning of the twentieth century so that by virtue of the introduction of more crop farming and diversification favorable conditions emerged thereafter for the better development of a more balanced agriculture. General advance in

^{23/} Cooley, F. G., A History of the Montana Extension Service, Typewritten, Unpublished, 1924.

^{24/} Ibid., p. 3.

land prices came all over the country. Farm owners in the older states of the East sold their land at high prices and invested the proceeds in cheaper lands in the West. The old farm owners knew the farming game and were confident of their ability to succeed in it in the cheap new lands of Montana. With the aid of savings and easy credits, many people from other slow progressing industries turned to agriculture. Public domain, large Indian reservations, grazing lands and sub-marginal lands were surveyed, occupied and placed into production.

Government reclamation by means of extensive irrigation works was pushed through, especially in the semi-arid regions of the West. In these regions, large sums of government and private money were spent for irrigation development resulting in an increase of business and employment of labor. Large numbers of settlers with means were attracted by the lands improved by private and government reclamation and they freely invested not only in land but in all kinds of equipment, livestock, building materials and family needs.^{25/}

Old irrigation systems were improved, thus valuations of improved farms and new farms were enhanced. The grants of land to railroads were opened for sale after their survey and division to the desired farm sizes. Some Indian reservations were opened for settlement one by one.

With the homesteading, sale of railroad land and reclamation going on in Montana, speculation came along. Land companies and agencies were

^{25/} Ibid., p. 4.

formed and operated in the principal towns. They took care of eager land buyers. Advertisements in newspapers throughout the country made Montana farms and products popular. Trains and cars of Montana products were exhibited in the East. The railroads aided in the development of farm production and the prosperity of Montana settlers.

Capital and credit to settlers sometimes in abundance and sometimes in a limited way only, provided by banks and loan agencies created for the purpose were important factors in the rapid settlement, development and improvement of the Montana agricultural areas. The lending institutions were very optimistic in the success of the farming industry so that loans in amounts quite hard to secure nowadays were readily granted to farmers. However, the unwise and enormous credit expansion created farm and bank failures when the period of deflation came in subsequent years.

The period of land settlement and speculation in Montana carried unidentified activity in agricultural extension which was not then recognized as such but is today very visible. The fairs, farmers' and livestock growers' meetings, served by the agricultural college and agricultural experiment station, were an extension activity of a sort.^{26/}

The Beginning of Extension Work in Montana

The Montana State College and the Agricultural Experiment Station attempted to answer some of the demands of the Montana farmers for help with their farm problems. There was a need for a separate staff of extension workers. Dr. W. J. Hartman, a livestock specialist, was employed in

^{26/} Ibid., p. 5.

1911 in agriculture extension work and also acted as assistant in charge of boys' and girls' clubs.

The leaders of agricultural education became conscious of the need for home economics instruction for farm homemakers. Recommendations were considered for the permanent employment of an instructor in this particular subject. Miss Stoner, Mrs. Laws, and Miss Lucille Brewer were employed, but permanent instruction was delayed owing to insufficient funds.

The Montana State Legislature passed an act on March 17, 1913, which enabled counties to appropriate money for the employment of agricultural agents. The first county agent in the United States was located in Texas in 1910 in the person of Dr. Seaman Knapp. Next came an agent in Broome County, New York, in 1911. M. L. Wilson was employed as the first county agent in Montana on May 1, 1913.^{27/} Mr. Wilson was a lecturer in the Farmers' Institute and supervisor of demonstration farms before his appointment.

The Montana Experiment Station and the Northern Pacific Railway operated demonstration farms in Forsyth, Bloomfield, Helena, Twin Bridges, etc. Better adopted crops and a system of cultivation without irrigation were demonstrated on these farms. Large meetings were held before harvest at these demonstration farms, which enabled the people to see what could be done and the way it had been successfully handled.

Mr. Wilson was assigned as county agriculturist to Custer and Dawson counties with headquarters at Miles City and Glendive. Ten counties now

^{27/} Ibid., p. 7.

comprise the territory included in the two counties of Custer and Dawson.^{28/} The area was an open range without fences or graded roads. Trails across the prairies consisted of wheel tracks, a comfort for travelers only because it gave confidence of reaching one's destination. Just after the coming of Mr. Wilson as county agent, the homesteaders and settlers began to fence the open range, trails were straightened and the roads were improved. Mr. Wilson served faithfully and well the people in the vast area. County agent work continued in Custer and Dawson Counties in 1913 and later, five county extension agents were assigned in the same territory.^{29/}

The office of the Farmers' Institute in Montana employed and assigned Carl H. Peterson as county agent to Fergus County in May, 1913. He was a superintendent of the college farm before his employment as county agent. Under the enabling law, the county commissioners of Fergus appropriated the sum of \$1,200 annually for county agent work, after receiving a petition signed by 51 percent of the county's voters engaged in farming. Fergus is the only county in Montana with the distinction of securing enough signatures to petition for an agent to satisfy the law.

The year before the passage of the Smith-Lever Agricultural Act, the Farmers' Institute Office gave advice and assistance to Wilson and Peterson in their work as county agents in Montana. However, they performed the work largely on their own initiative. Their work was so successful and valuable that Wilson became the first state leader of county agents and Peterson continued until 1924 as county extension agent.

^{28/} Ibid., p. 7.

^{29/} Ibid., p. 7.

The Smith-Lever Act

The United States Congress after several sessions under the pressure from the agricultural colleges, farmers' organizations, Chambers of Commerce and business groups, passed the Smith-Lever Act on May 8, 1914. The long deliberation over the Act before its passage by its advocates in the Congress acquainted a large number of interested people in the nation with it. The Smith-Lever Act is specific in its stipulation of the procedure to be used to accomplish its objectives.

The Smith-Lever Act has several salient features, which are:

1. The appropriation of a large sum of money to states for agricultural extension work.
2. A cumulative principle whereby this appropriation is increased yearly for ten years, thus providing for steady growth and avoiding the waste of public money from the sudden expansion without adequate planning.
3. A partnership with the states giving the latter an equal share in the responsibility of the work. All appropriations under this Act in excess of \$10,000 to each state must be offset by an equal appropriation by the state for the same purpose.
4. Division of these federal funds is according to agricultural population. Cities and towns of over 2,500 inhabitants are not included in computing the share of each state.
5. Emphasis of employment of local resident agents (agricultural, home economics or 4-H clubs) as the medium for extension work.

6. Creation of a federal administrative and supervisory office to direct and regulate the work of the states, approve the projects, and audit the expenses and examine the accounts.

Montana Extension Service Legislation

The Montana State Legislature had passed an act before the Smith-Lever law, authorizing a board of county commissioners to appropriate \$1,200 a year for the salary and expenses of a county agriculturist after receiving a petition signed by 51 percent of the county's voters engaged in agricultural pursuits. This act did not create the employment of county agents in most of the counties. Commissioners only appropriated money for the work when public opinion was favorable.

The Montana State Legislature passed in 1917 the enabling law removing the limit in amount of funds appropriated by boards of county commissioners and omitting the need of the petition of 51 percent of farmers in the county.

The financial foundation for extension work in Montana has three points of support:

1. Federal allotment under the Smith-Lever appropriation was initially \$10,000 per year, increased by \$2,400 each succeeding year, reaching an annual total appropriation of \$40,000 in 1923 which was the amount received under the original Smith-Lever Act. During World War I, extension allotments to the states were greatly increased and Congress has continued to make an annual supplemental appropriation for

