UNIVERSITY OF IDAHO

COLLEGE OF AGRICULTURE.

IDAHO AGRICULTURAL EXPERIMENT STATIONS.

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Announcement, and Proposed Work of the Stations.

By ROBERT MILLIKEN, Director.

☞ These Bulletins are sent free to all residents of Idaho who request them.

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University of Idaho.

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THE OBJECT OF THESE STATIONS has been defined by congress to be for the research in any subject within the broad domain of agricultural art and science that is of economical value to farmers, and through them of value to consumers.

This station work is established and will be carried on under the law of Congress known as "The Hatch Act," entitled, "An Act to Establish Agricultural Experiment Stations in connection with the colleges established in the several states under the provisions of an act approved July 2nd, 1862," section one of which defines the purpose to be, "To aid in acquiring, and diffusing among the people of the United States useful and practical information on the subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science."

The second section of the act defines the work of the Agricultural Experiment Stations, as follows:—"Sec. 2. That it shall be the object and duty of said experiment stations to conduct original researches, or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same, the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued in a varying series of crops; the capacity of new plants or tress for acclimation; the analysis of soils and waters; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions in the production of butter and cheese. and such researches or experiments, bearing directly on the agricultural industry of the United States, as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States and Territories."

The business of the Stations is to discover what is unknown, in fact, principle or application, in any branch of agriculture. What is unknown must be found by research, not by accident, and requires knowledge, ac-

curacy, judgment, and industry. The conditions of the law are such that the Stations are charged with, not only acquiring this class of information, but with diffusing it among the people. And the useful and practical information to be thus diffused is that which is supposed to be worthy of such diffusion, no matter how acquired. The last clause of Sec. 2, above quoted authorizes the Experiment Stations to adapt the work in the various lines of of research "to the varying conditions and needs of the respective States and Territories," hence applicable to the non-irrigated as well as to the irrigated lands of the state.

That all the possibilities of agriculture in the different sections and at the different altitudes of Idaho may be fairly tested, the management desires to be in direct personal communicatiou with the farmers, fruitgrowers, gardeners and stockraisers of the state of Idaho. Correspondence is invited on any subject within the scope of the Station work, and questions will be answered cheerfully and as promptly as possible.

The subjects to receive attention, as far as circumstances permit, may be divided into four classes, or groups, relating to soils, plants, animals, and climate.

To supple the materials for these researches we must look to the citizens of the State. The chemical laboratory at the University is now complete and work can be undertaken in determining the chemical properties of certain soils at an early date. This work lying as it does, at the foundation of agriultural science, and related, as it is, to many of the industries, is of so much importance as to merit particular attention. Samples of soils from all parts of the State are desired. Directions for taking and sending samples will be given on request.

The study of agricultural plants will include the staple crops of the State,—comparison of the older varieties and tests of the new ones. Experimental work relating to the cereals, forage plants, fruits, vines, vegetables, ornamental trees, shrubs, flowers, weeds, insects and other articles of experimental interest will receive attention so far as possible.

Seeds will be tested as to purity and vitality; general methods of planting, cultivating and harvesting; the identification, history, habits, and management of noxious weeds, and their suppression and eradication; vegetables and fruits of all kinds; orchard and forest trees, and trees for shade and ornamentation; the effects of special methods of culture and treatment of growing plants; the various diseases of plants,—causes, prevention, and

remedies; the habits and control of insects, both beneficial and injurious, are some of the lines of investigation.

Persons having new, rare and choice sorts of fruits, grains, grasses or vegetables of any kind are requested to send scions, plants, roots or seeds to the department for trial, on the experimental station grounds, and comparison with standards sorts.

As the majority of the choicest kinds have originated by chance, it is desirable that all promising new sorts be carefully tested and their merits determined.

The injurious insects of the farm, orchard, and garden demand attention at our hands. Very naturally the people of the state will look to this institution for information and suggestions, and we ought, and must be in a position to render assistance as asked. Few things are of more importance to the people of the state than work of this kind, and any information as to the best way of combating these pests is of vital importance. In order to successfully cope with these enemies of vegetation it is necessary for us to know the insects and to be able to recognize them in their different stages of development. If residents of the state who desire information regarding insects will send specimens to the University, an endeavor will be made to satisfactory answer any inquiries regarding their life history, or the best means of destroying them if they are injurious. Insects may be safely sent by mail, if properly packed, for one cent per ounce. Directions for proper packing will be given upon application.

The live stock problems which may be considered, embrace the rational comparison of breeds; animal foods in their great and increasing varieties; feeding, for different purposes; and animal products and their treatment. As the work of the Stations progress these matters will receive due attention, but foremost in importance is that of Animal Disease. A line of experimentation will be undertaken to solve as far as possible the nature of and remedies for the various diseases peculiar to our domestic animals.

The dairy interest to the people of Idaho are of very great importance and it is thought best to institute experiment and inquiry to determine the best means of its successful prosecution in this state. The high prices of dairy products render the question of the production of milk and its resultant products one of the great economic value.

The relation of farming and the weather covers a wide range for pro

fitable investigation as to the effects of climatic conditions upon soils, plants and animals.

Meteorology has been reduced to a science. Its value to the farmer and business man is now recognized to such an extent that Signal Stations are now established and maintained at government expense, in all parts of the country. A department of climatology follows as a necessary factor in the organization of the agricultural experiment stations. A complete set of instruments will be put in position as soon as practicable, and a continuous series of observations will be made in the interests of agriculture and science and a permanent record thereof made for reference.

The world uses nearly seven million tons of sugar per annum, more than one-half of which is the product of the sugar beet. Large factories for the extraction of the sugar from the beet are successfully maintained in Nebraska, Utah and California. Under irrigation in the arid regions, the peculiar climatic conditions cause the crops to make a luxuriant growth early in the season, and to ripen in the autumn with a large store of starch and sugar. This is particularly true of the sugar beet. Experience has shown that the beet grown on irrigated land is much richer in sucrose than the beet grown in humid regions imperfectly ripened by reason of heavy autumn rains. This being true it is important that careful experiments be conducted on the different experiment stations with a view of demonstrating the value of the sugar making industry to the State of Idaho.

Other problems of great importance to the people of Idaho, such as the cultivation of grapes, peaches, prunes, and other fruits for commercial purposes will receive due attention. The number and diversity of problems to be solved in the widely separated sections of a state presenting so great a diversity of soil, latitude and altitude, the need of linking together, of helping to co-ordinate the efforts of ihe workers in the different sections, and of bringing together the fruits of the accumulated experience of the different sections, evince the wisdom of a central office through which to direct this experimental work. The means of communicating the facts and information acquired throug the medium of the Experimental Stations will be given to the public through bulletins, which will be published from time to time as the law directs, and sent free to all citizens of Idaho who may apply for

for the same. Under the law it is as much the duty to diffuse information as to acquire it.

As before stated, correspondence is earnestly invited upon all subjects related to Station work, and specimens of all clases of objects of interest in the line of the work are solicited.

Address all communications to,

Office Agricultural Experiment Stations,

STATE UNIVERSITY,

MOSCOW, IDAHO.