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# Agricultural Experiment Station

OF THE

UNIVERSITY OF ILLINOIS.

BULLETIN No. 1, MAY, 1888.

# ORGANIZATION.

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## THE STATION STAFF.

GEORGE E. MORROW, Agriculturist.

THOMAS J. BURRILL, Horticulturist and Botanist.

WILLIAM McMURTRIE, Chemist.

THOMAS F. HUNT, Assistant Agriculturist.

GEORGE W. McCLUER, Assistant Horticulturist.

JOHN A. MILLER, Assistant Chemist.

And others to be appointed.



UNIVERSITY OF ILLINOIS.

Agricultural Experiment Station.

BULLETIN NO. 1.

*Champaign, May, 1888.*

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This first Bulletin of the Agricultural Station of the University of Illinois is designed to explain briefly these items:

1. The steps that have called the Station into existence.
2. Its organization and regulations.
3. The broad fields into which investigation is to be pursued, and the plan laid out for immediate work.

ENDOWMENT.

It will be remembered that the endowment granted by Congress to the several States under the provisions of the Act of July 2, 1862, commonly known as the "Agricultural College act," was emphatically the ENDOWMENT OF INSTRUCTION. The duty of the institutions which should be founded upon its bounty was to TEACH. Only indirectly is research even referred to in this law. In naming the subjects in which instruction should be given, the law makes the mechanic arts equally prominent with agriculture, while it includes "other scientific and classical studies." The University of Illinois, during the twenty years of its existence, has never failed to give to agricultural and mechanical instruction the full prominence which the organic law designed and required.

It is now more than five years since a movement was made to secure from Congress authority to establish and maintain in the several States a series of Agricultural Experiment Stations. The duty of the Stations springing from this movement is to be INVESTIGATION, and that in fields relating to the various departments of agricultural industry. The endowment is the ENDOWMENT OF RESEARCH.

The act which provides for the establishment of experiment stations, commonly called the "Hatch Act," was approved March 2, 1887. It is as follows:

*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 second, eighteen hundred and sixty-two, and of the acts supplementary thereto.*

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges or agricultural department of colleges in each State or Territory established, or which may hereafter be established, in accordance with the provisions of an act approved July second, eighteen hundred and sixty-two, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," or any of the supplements to said act, a department to be known and designated as an "agricultural experiment station:" *Provided,* That in any State or Territory in which two such colleges have been or may be so established the appropriation hereinafter made to such State or Territory shall be equally divided between such colleges, unless the legislature of such State or Territory shall otherwise direct.

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 under a varying series of crops; the capacity of new plants or trees 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 involved in the production of butter and cheese; and such other 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 or Territories.

SEC. 3. That in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States Commissioner of Agriculture to furnish forms, as far as practicable, for the tabulation of results of investigations or experiments; to indicate, from time to time, such lines of inquiry as to him shall seem most important; and, in general, to furnish such advice and assistance as will best promote the purposes of this act. It shall be the duty of each of said stations, annually, on or before the first day of February, to make to the governor of the State or Territory in which it is located a full and detailed report of its operations, including a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the said Commissioner of Agriculture, and to the Secretary of the Treasury of the United States.

SEC. 4. That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to each newspaper in the

States or Territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports and the annual reports of said stations shall be transmitted in the mails of the United States free of charge for postage, under such regulations as the Postmaster General may from time to time prescribe.

SEC. 5. That for the purpose of paying the necessary expenses of conducting investigations and experiments and printing and distributing the results as hereinbefore prescribed, the sum of fifteen thousand dollars per annum is hereby appropriated to each State, to be specially provided for by Congress in the appropriations from year to year, and to each Territory entitled under the provisions of section eight of this act, out of any money in the Treasury proceeding from the sales of public lands, to be paid in equal quarterly payments, on the first day of January, April, July, and October in each year, to the treasurer or other officer duly appointed by the governing boards of said colleges to receive the same, the first payment to be made on the first day of October, eighteen hundred and eighty-seven. *Provided, however,* That out of the first annual appropriation so received by any station an amount not exceeding one fifth may be expended in the erection, enlargement, or repair of a building or buildings necessary for carrying on the work of such station; and thereafter an amount not exceeding five per centum of such annual appropriation may be so expended.

SEC. 6. That whenever it shall appear to the Secretary of the Treasury from the annual statement of receipts and expenditures of any of said stations that a portion of the preceding annual appropriation remains unexpended, such amount shall be deducted from the next succeeding annual appropriation to such station, in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

SEC. 7. That nothing in this act shall be construed to impair or modify the legal relation existing between any of the said colleges and the government of the States or Territories in which they are respectively located.

SEC. 8. That in States having colleges entitled under this section to the benefits of this act and having also agricultural experiment stations established by law separate from said colleges, such States shall be authorized to apply such benefits to experiments at stations so established by such States; and in case any State shall have established under the provisions of said act of July second aforesaid, an agricultural department or experimental station, in connection with any university, college, or institution not distinctively an agricultural college or school, and such State shall have established or shall hereafter establish a separate agricultural college or school, which shall have connected therewith an experimental farm or station, the legislature of such State may apply in whole or in part the appropriation by this act made, to such separate agricultural college or school, and no legislature shall by contract express or implied disable itself from so doing.

SEC. 9. That the grants of money authorized by this act are made subject to the legislative assent of the several States and Territories to the purposes of said grants: *Provided,* That payments of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its legislature meeting next after the passage of this act shall be made upon the assent of the governor thereof duly certified to the Secretary of the Treasury.

SEC. 10. Nothing in this act shall be held or construed as binding the United States to continue any payments from the Treasury to any or all the States or institutions mentioned in this act, but Congress may at any time amend, suspend or repeal any or all the provisions of this act.

Approved, March 2, 1887.

It will be observed that with few exceptions, made to meet unusual conditions, none of which exist in Illinois, the act provides that the stations shall be established at the colleges already existing as the offspring of the act of 1862. It will be further observed that the stations are



not to be separate institutions, but integral parts—departments of the colleges, and this for the evidently good reason, that thus the stations may come at once, and without large and expensive outlay, to enjoy such parts of the endowments which the colleges already possess, as shall be of great service in carrying forward this enterprise of research. The experiment station of the University of Illinois steps at once into the use of property in lands and buildings, including offices, laboratories, barns, stables, etc., which could not be otherwise procured now for less than \$50,000, and which have cost the University in the past more than that sum. Similar conditions exist at most of the agricultural colleges in the country.

As a department of the University the Station must come under the general management and control which governs the University. The house may not be divided. But as a department existing under a different law, and especially as supported by a different fund, all accounts and expenses must be scrupulously kept distinct. Neither may be permitted to encroach upon the funds of the other. If the servants of the Station teach, the University must pay for the instruction; if the servants of the University work for the Station, it must pay for their services. The line of demarkation may be drawn easily and clearly just there. Instruction is the business of the University; investigation, in all lines pertaining to agriculture, is the work of the Station.

Soon after the passage of the act of Congress the "legislative assent," required by section nine of the act, was given by the General Assembly of the State of Illinois by the passage of the following Joint Resolution:

WHEREAS, The Congress of the United States has passed an act approved by the President March 2, 1887, 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 2, 1862, and of the acts supplementary thereto;" and

WHEREAS, It is provided in section nine of the act aforesaid "that the grants of moneys authorized by this act, are made subject to the legislative assent of the several States and Territories to the purposes of said grants;" therefore, be it

*Resolved by the Senate, the House of Representatives concurring herein,* That the assent of the General Assembly of the State of Illinois be and is hereby given to the purposes of the grants made in said act, and that the Trustees of the University of Illinois be and they are hereby authorized and empowered to organize and conduct an agricultural experiment station in connection with the Agricultural College of said University of Illinois, in accordance with the terms and conditions expressed in the act of Congress aforesaid.

All preliminaries having been adjusted, it seemed that the next movement should be organization. This, however, was arrested by a decision from the Comptroller of the United States Treasury, in which it was very properly held that the Hatch Act made of itself no appropriation of money, but that a specific appropriation should have been made by Congress to carry the provisions of the Hatch Act into effect. This had been overlooked. The Trustees of the University of Illinois, being strictly enjoined by their charter, could not enter upon any expenditure of money for any purpose, unless the necessary money had already been provided for such use.

Accordingly the subject rested until the present Congress, by act of February, 1888, made a special appropriation of \$15,000 to be expended, if used at all, before the first of July, 1888.

This second act is in one particular more liberal than the first, since it provides that money shall be paid, not out of the proceeds of the sales of the public lands, which might be insufficient, but "out of any money in the treasury not otherwise appropriated."

#### ORGANIZATION.

Although an enforced delay in organization had occurred, the authorities of the University had not been idle. Much thought had been given to the work required and the means of performing it both by the Trustees and by the members of the Faculty of Agriculture. The Trustees found themselves under obligations to administer upon property placed within their control, not even the option of refusal being left to them, and they proceeded to perform their duty under the best advice and counsel within their reach. They recognized that they were charged with a duty towards the great agricultural interests of the State, and that they could not evade the responsibility which the law placed upon them. They invited the President and Secretary of the State Board of Agriculture, of the State Horticultural Society and of the State Dairymen's Association, to confer with them at a meeting called for the purpose in Chicago, March 21, and, after a full consultation had with those gentlemen, the Trustees adopted the following

#### PLAN OF ORGANIZATION.

SECTION 1. Pursuant to and in accordance with the provisions of an act of Congress approved March 2, 1887, 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 2, 1862, and of the acts supplementary thereto," and of a Joint Resolution of the 35th General Assembly of the State of Illinois, giving assent thereto, as provided in section nine of said act of Congress.

There shall be, and is hereby, established a department of the University of Illinois, which shall be known and designated as The Agricultural Experiment Station of the University of Illinois.

SEC. 2. The object and duty of such Experiment Station shall be to fulfill in its scope and work the requirements of section two of the act of March 2, 1887, establishing the same, and to conduct such other researches and experiments bearing directly on the agricultural industry of the State of Illinois, as may be deemed advisable by the Board of Trustees of the University of Illinois.

SEC. 3. The experimental work of the Station shall be under the immediate charge of a Board of Direction, consisting of nine persons, one of whom shall be designated as President, when appointed; and all the members of said Board shall be appointed by the Board of Trustees of the University, at its annual meeting. The persons who may be appointed on such Board of Direction shall be: the Regent of the University; one person from each of the following named organizations in the State of Illinois, to be recommended to the Board of Trustees by those respective organizations, or by their respective Presidents and Secretaries, to wit: The State Board of Agriculture, The State Horticul-

tural Society, The State Dairymen's Association; and five other persons, at least two of whom shall be Trustees of the University.

The persons appointed shall hold office until the next annual meeting of the Trustees of the University, and until their successors are appointed. Any vacancies in the Board of Direction shall be filled by the Trustees of the University.

The President of the Board of Direction, and two members thereof appointed by the Board of Trustees, shall constitute an Executive Committee, which shall have authority to perform all the functions of the Board of Direction when said Board is not in session.

SEC. 4. The Directors shall devise and arrange the methods by which investigation shall be pursued and experiments conducted. They shall divide the work of the Station and assign the parts thereof to such persons as may be best fitted by experience and ability to carry forward such work. They shall keep accurate detailed accounts of all experimental work, and all the circumstances surrounding the experiments, which can in any way affect them, and work out such results as the facts may show and put the same in shape for proper reports, to be published from time to time as required by the act of March 2, 1887.

The Directors may adopt such rules of organization as they may deem necessary, which shall not be in conflict with the laws under which the department is organized, or with such regulations as the Trustees may from time to time prescribe.

SEC. 5. The Directors shall report to the Regent and Trustees at each regular or quarterly meeting of this Board such experiments and investigations as they desire to undertake, also shall report the probable expense of the same, and shall designate such instruments, lands, help, and other requirements which they may need to carry out successfully the proposed work; and no experiments or investigations requiring the expenditure of money shall be made by the Directors of such Station without the approval of the Board of Trustees of the University, or in case of emergency, the Executive Committee of said Trustees, first had and obtained.

SEC. 6. The Treasurer of the Board of Trustees is hereby designated and appointed to receive and have the custody of the moneys appropriated from time to time by the Congress of the United States, and any and all other moneys appropriated or donated at any time for the purpose of such Station, and he shall keep all such moneys in a separate fund account, and shall pay the same out upon warrants signed by the President of the Board of Trustees, and countersigned by the President of the Board of Direction of such Station, but no money shall be drawn or used for any purpose except for the work and needs of the Experiment Station.

SEC. 7. The Board of Direction shall render to the Board of Trustees at each regular and quarterly meeting an account of all moneys received and expended, together with the vouchers for all expenses and disbursements, and shall report to the Trustees any facts which shall affect the financial management of the Experiment Station.

SEC. 8. The Board of Direction, with the consent of the Trustees, shall appoint a Secretary whose duty it shall be, under the direction of the President of the Board, to keep a complete record of the work of the Station, to carry on the correspondence, supervise the editing and printing of all bulletins and reports, and shall do all other work necessary to be done about the business of such Station, which may be required of him by said Board or its President.

SEC. 9. In case any professor of the University shall be employed in the work of the Experiment Station, the Board of Direction shall estimate the value of his services while so employed, such estimate to be made upon the basis of his regular salary as such professor, and whatever sum shall be found as a proper compensation for such services, such amount shall be paid to the treasury of the University from the Experiment Station fund.

SEC. 10. The Board of Direction shall, at its discretion, appoint all officers and regular assistants employed upon the work of the Station, and shall fix the compensation of such appointees. The Board of Direction may employ and pay from a fund appropriated for that purpose, to be drawn by the usual warrant, all temporary assistants, laborers,



janitors, and workmen, such employment and payment to be reported to the Trustees at each quarterly meeting. No member of the Board of Direction shall receive any compensation for acting as such, beyond his necessary expenses while engaged upon his duties as such member of the Board.

SEC. 11. The Trustees shall from time to time set off such lands belonging to the University as may be needed for experimental work; which lands shall be free of rent charge, but all produce therefrom, after need of it for purposes of experiment has ceased, shall belong to the University without charge and may be removed from the land by the University.

The Trustees shall likewise assign such farm tools, machinery, labor, and teams for the use of the Station as may be convenient without interfering with the University work, and its farms, and whenever necessary teams, tools, and machinery shall be purchased for the exclusive use of the Station; and whatever shall be furnished to the Experiment Station by the University either in help, materials, teams or special work shall be paid for from the Station fund at current values and rates.

Whenever deemed advisable for experiments or any subject requiring the use of buildings, tools, stock or animals for feeding or dairy purposes, or the use of the laboratories, green-houses, or veterinary buildings for chemical work, plant experiments, or the treatment of diseases, the Board of Direction shall report to the Board of Trustees such needs, specifying what arrangements can be made which will not conflict with the University work, and the Trustees shall make all necessary provisions which shall be reasonable and feasible to promote the experimental work. It being the declared intention of the Board of Trustees to render every assistance possible to further the efficacy and success of the Experiment Station.

SEC. 12. The Trustees will assign rooms in the University buildings for an office or other purposes from time to time as shall be needed, under such terms as shall be provided when assigned.

SEC. 13. The Experiment Station shall be deemed a department of the University, and except as may be herein or hereafter specially provided, all its officers and employes shall be governed by the same regulations which govern other departments of the University. The Regent shall include the Experiment Station as one of the subjects of his regular quarterly report to the Trustees, with statements as to its progress, suggestions as to its current needs and prospective development, and recommendations as to appropriations and management as occasion shall seem to require. Questions which may arise touching the Station, its work, or its relationships not herein provided for, shall be referred to the Trustees of the University, who may add to, rescind, or amend these regulations at their discretion.

Under this plan of organization the following were appointed members of a Board of Direction, to serve until the next annual meeting of the Trustees:

S. H. Peabody, Regent University of Illinois, President of the Board of Direction.

E. E. Chester, Vice-President State Board of Agriculture.

J. T. Johnson, Ex-President State Horticultural Society.

H. B. Gurler, Ex-President State Dairymen's Association.

Emory Cobb, Trustee University of Illinois.

Burden Pullen, Trustee University of Illinois.

George E. Morrow, Professor of Agriculture, University of Illinois.

T. J. Burrill, Professor of Botany and Horticulture, University of Illinois.

William McMurtrie, Professor of Chemistry, University of Illinois.

A meeting of the Board of Direction was convened at the University, March 28, and the plans and work of the Station received thorough consideration and full discussion. The following program of work for the season now opening was adopted:

#### WORK OF THE STATION FOR SEASON OF 1888.

##### *To the Trustees of the University of Illinois:*

The Board of Direction of the Agricultural Experiment Station presents this, its first report upon the subjects committed to it for consideration.

The Board has first sought to determine the general scope of experimental work which should be undertaken, as indicated by the nature of the agricultural and kindred pursuits carried on in the State of Illinois, and the present condition of this great industry. While many topics present themselves as worthy of investigation, and such as, sooner or later, will demand consideration, the following appear to be most important. Others seem to group themselves about these, or to be secondary issues naturally growing out of these. These four have been selected by what seems a principle of natural selection.

1. The culture of the cereal grains and the grasses.
2. The feeding of animals with reference to growth and meat product.
3. The feeding of cattle with reference to the milk product.
4. Orcharding and the culture of small fruits and garden products.

In each of these departments thought has been taken as to,

1. Experiments which can be undertaken at once, in order that some report of the work done, or in progress, may be sent to the waiting public at an early day.
2. Experiments of a broader and more exhaustive character which may require considerable time to bring about results, intelligible and reliable.

As the working season is now upon us, most attention has been given to find what lines of work in these greater departments can be entered upon at once.

The following are recommended:

1. In the department of field experiments.

(a) Plat culture for testing varieties. For this season, corn, oats, and roots. Object, to determine the truthfulness of named varieties and their relative values under ordinary and similar cultivation.

(b) Plat culture of some carefully chosen varieties. Object, to determine the influence of definitely varied methods of cultivation; or conditions of soils; or methods of fertilization.

(c) The uses of fertilizers as barnyard manures; commercial fertilizers; mineral substances, etc.

(d) The following up of lines of crop experiments already undertaken at the University, and partially worked out on the points named above, and upon rotation, drainage, etc. To corn and oats must be added wheat, the grasses, and other forage plants, when the season comes for beginning such experiments.

2. In the department of stock-feeding.

Experiments should be undertaken to determine the relative values of different kinds of foods, with reference to distinctly chosen and definite purposes.

(a) The value of ensilage fed to growing animals compared with other substances, as hay or special foods, etc.

(b) The comparison, later in the season, between grain and grass feeding, on cattle of various ages and conditions.

## 3. Dairy feeding.

(a) The feeding of ensilage to dairy cows in order to ascertain its value in comparison with other forage, hay, grain, or special foods.

(b) Experiments upon the use of certain salts with milch cows.

(c) Experiments upon the frequency with which water should be given to milch cows and the temperature which is best for their use.

(d) Experiments upon the composition and characteristics of the milk from animals of different breeds and their grades.

(e) In this connection it is deemed advisable to begin a careful investigation with a view to discover some simple and exact method of determining the quantity of fatty matter in fresh milk. The subject is one of great importance in the operation of creameries, concerning both the farmer who sells milk and the manufacturer who buys it, and as a means of indicating the true value of milk-giving animals. Some work already done in this direction leads to the belief that success may reward further effort.

## 4. In the department of horticulture.

(a) Experiment with a part of the old orchard now on the University farm, using varied cultivation, various fertilizers, etc.

(b) Plant a limited area with new trees, as apples, pears, plums, etc., with a view of testing their adaptability to the situation as well as the influence of varied culture, upon them, particularly as to the use of fertilizers.

(c) To conduct similar experiments upon grapes, using in part the stock now on hand and in part new plantings.

(d) Plant small fruits for testing varieties, culture, hybridization, etc.

(e) Investigate carefully and exhaustively a few kinds of vegetables, one, two, or more, to determine identity of varieties, comparative values, adaptation, and culture.

(f) Begin some tests as to the use of special fertilizers about forest trees.

(g) Investigate plant diseases and the remedies therefor.

## GENERAL PLANTING.

To prepare for feeding experiments upon live stock in the next fall and winter, a considerable planting of corn for ensilage, and of roots, should be made. In this will be found also opportunity for experimenting upon the kinds of seed, thickness of planting, etc., etc.

This plan of work has been approved by the Board of Trustees, and experiments have already been begun along the lines indicated, as follows:

## FIELD EXPERIMENTS.

1. Corn: testing of varieties.
2. Corn: testing of varieties for ensilage.
3. Corn: time of planting.
4. Corn: depth of planting.
5. Corn: thickness of planting.
6. Corn: planting in hills or drills.
7. Corn: mode of planting.
8. Corn: frequency of cultivation.
9. Corn: depth of cultivation.
10. Corn: effect of root pruning.
11. Corn: effect of fertilizers.
12. Oats: quantity of seed per acre.
13. Oats: compact or loose seed bed.
14. Oats: time of sowing.
15. Oats: depth of sowing.
16. Grasses: comparison of varieties.



17. Clovers: comparison of varieties.
18. Grasses and Clovers: sown with or without grain.
19. Grasses: field tests of varieties.
20. Clovers: field tests of varieties.
21. Grasses and Clovers: field tests of mixtures.
22. Weeds: numbers and kinds on given areas.
23. Rotation: University experiments continued.
24. Fertilizers: comparison of.

## FEEDING EXPERIMENTS.

25. Feeding: ensilage to growing cattle.
26. Feeding: cattle of different breeds.
27. Feeding: cost of production of young steers.
28. Feeding: cost of production of young colts.
29. Feeding: cost of production of young calves.
30. Feeding: effect of ash constituents upon pigs.

## TREE CULTURE.

31. Orchard: soil cultivation and management.
32. Orchard: soil fertilization.
33. Apples: testing new varieties by planting.
34. Apples: testing new varieties of top grafting.
35. Apples: testing hardiness of root-grafted and double-worked trees.
36. Pears: testing new varieties.
37. Plums: testing new varieties.
38. Cherries: testing new varieties.
39. Forest Trees: growing of.

## VINE CULTURE.

40. Grapes: testing new varieties.
41. Grapes: methods of training.
42. Grapes: soil treatment.

## SMALL FRUIT CULTURE.

43. Blackberries: testing varieties.
44. Raspberries: testing varieties.
45. Strawberries: testing varieties.
46. Strawberries: method of management.

## GARDENING.

47. Tomatoes: effect of artificial fertilization upon earliness of product.
48. Beans: testing varieties.
49. Sweet Corn: testing varieties.

## INFORMATION.

The officers of the Station desire to be in direct personal communication with the agricultural public, particularly of the State of Illinois. Information which the Station has upon any subject within the scope of its operations will always be given promptly and cheerfully. Questions will be answered directly by correspondence, and, if thought to be of general interest, the answers will be given through the bulletins, or through the press.

But the Station cannot commit itself to undertake the discussion of questions which will involve extended investigation and experiment outside the lines of work which the officers of the Station have selected. Especially will this be true of investigations which have only a personal and private interest. Analyses of soils, waters, fertilizers, foods, etc., will be undertaken only as they come legitimately in connection with the regularly adopted experiment-work of the Station.

Questions concerning entomology should be referred to the State Entomologist, Champaign, Ill.

The University of Illinois has for distribution copies of its reports, Volumes V. to XIII. inclusive. These reports contain many agricultural papers of interest. Any of them will be sent to persons who desire and will pay express charges upon them, or postage at the rate of ten cents per volume.

## DISTRIBUTION OF BULLETINS.

The law provides that the bulletins shall be sent FREE OF POSTAGE to all newspapers in the State of Illinois, and "to persons engaged in farming who may request that they be sent."

Persons who receive this issue and desire to receive the subsequent publications of the Station, should, if they have not already done so, make their wishes known here by postal card or otherwise.

Papers which receive the bulletins are requested to publish such portions as may be of interest to their readers, and particularly to notice that the bulletins will be sent as explained above.

The bulletins may not be sent to central points for distribution.

All communications should be addressed to the AGRICULTURAL EXPERIMENT STATION, CHAMPAIGN, ILL.

SELIM H. PEABODY,

*President Board of Direction.*









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