

The M. A. C. RECORD.

MICHIGAN STATE AGRICULTURAL COLLEGE.

VOL. 15.

LANSING, MICHIGAN, TUESDAY, FEBRUARY 8, 1910.

No. 19.

THE MICHIGAN DAIRYMEN'S ASSOCIATION.

The twenty-sixth meeting of the Michigan Dairymen's Association was held in the Wayne Casino at Detroit, Feb. 1st, 2nd, 3rd and 4th. The Association began as a very small gathering of interested dairymen. Its growth at first was very slow, but in the more recent years greater interest has been manifested and the attendance reached up into the thousands.

The association is a sort of reunion of buttermakers and dairymen of the state. The afternoons of the convention are devoted to the discussions of the production of milk, care and handling of cream, butter-making and cheese-making. The rest of the time is spent in looking over the display of machinery. Nearly every kind of machine used in the dairy industry was represented—cream separators, churns, cream ripeners, testing outfits, starter cans, etc. Also there were fine displays of the various brands of salts and cleansing powders used in the dairy all of these, together, made up a very interesting and instructive feature of the association.

About 25 short course students and the instructors in charge of the dairy attended the convention, and report that it was one of the best, if not the best, ever held.

Mr. Raven, of the live stock extension work, and Mr. Grove, instructor in creamery, were elected directors of the association for the coming year.

Dr. Marshall and Mr. Simon Hagadorn, short course creamery instructor, gave two of the best talks of the program. Dr. Marshall's subject was "The Keeping Qualities of Butter," and Mr. Hagadorn spoke of "Starters in Cream Ripening."

DEBATERS AND OTHERS ATTENTION!

Judge Cahill, of Lansing, will address the Debating Society Thursday evening, at 7 o'clock, on the subject of the Ypsi. debate. Ypsilanti is making a big effort to win this debate, and our team will need the support of the student body in this as well as other lines of work. Judge Cahill is considered an authority on the subject, and all who hear him will be able to stand back of our team with enthusiasm.

The second preliminary debate was held last Thursday night and six of the best men in the college were chosen for the finals: W. R. Walker, R. W. Powell, M. B. Harris, J. C. DeCamp, E. A. Close, and A. W. Gibson. Three of these six will represent us in the debate with Ypsilanti, which will be held here in May.

The finals will be held in about three weeks. You are invited out Thursday evening to get a line on the work. You are urged to attend the finals to support the team you choose.

HORTICULTURAL CLUB.

The Horticultural Club listened to a fine talk Wednesday evening on "Orchard Methods in the Northwest" by Mr. Henry Walter, of Cheboygan, Mich. Mr. Walter has spent 16 months in several of the best orchards of the northwest, working for the owners and studying their methods. He spoke in particular of the Hood River Valley, Ore., as he considered that the best. In this region 75 per cent. of the plantings are yellow Newtown Pippins and Spitzenburgh. Many of the remainder are Ortley and Winter Banana.

The people of this valley have sprayed with lime-sulphur and Bordeaux for several years so that they have very little San Jose scale or scab. They are able to control the codling moth with one arsenical spray so that there is less than 5 per cent. of wormy apples.

The orchards are cultivated throughout the whole season with a disk cultivator and leveled with a special leveler. The trees are headed very low. The apples are thinned when they are about the size of hickory nuts, leaving one in each cluster. This gives large and uniform fruit.

At harvest time, the lower fruits are picked by women and girls, who use ladders which stand about four feet from the ground. The higher ones are picked by men with tripod ladders. They use mostly half bushel baskets lined with burlap. The fruit is then put in orchard boxes and taken to the packing house, where women sort and wipe them.

Next came the most interesting part of the evening's talk. It was a practical demonstration of the methods of packing. Mr. Walter took a box of fruit and illustrated very carefully each of their three methods.

The success of the northwestern people is due to their cooperation. They have formed the Hood River Apple Grower's Union, which buys all of their supplies, and packs and sells all of the fruit. Each load of fruit has to be inspected and all boxes that are rejected have to be repacked. This makes them able to guarantee every box sent out. They also hold biennial fairs, where friendly competition takes place and results are talked over. In addition they have the benefit of a good climate and good soil. All this has established a reputation for them and given them a good market and better prices than any other district in the United States.

Only a small percent of their orchards, however, have come into bearing and it is a question whether they can command such good prices after they come into full bearing. They also have the disadvantage of being a long distance from Chicago and New York, their main markets. Each box in car-load lots costs 55c for transportation.

Mr. Walter thinks that Michigan has advantages which are fully equal to those of the Northwest. We are right at the door of our market.

We are surrounded by the Great Lakes which gives us water transportation and protection from frost. Our fruit has a much better flavor than the western fruit. If we will get together and co operate, advertise, and pack correctly, we can produce fruit which will challenge the world.

During a lively question box, Michigan's king of apples—The Northern Spy—was served. The history and description was given by Mr. R. G. Voorhorst.

MORE CADETSHIPS OFFERED

A competitive examination for appointments to cadetships in the United States Revenue-Cutter Service will be held, commencing April 4, and lasting five days.

The department expects to appoint fifteen cadets as a result of this examination, provided that number of candidates pass the required standard. Before submitting request for application you should see Lieut. G. M. Holley.

NOTICE TO ENGINEER ALUMNI.

Every engineer alumnus of the College whose address is available will receive, shortly, a communication from the Dean of Engineering asking for certain information about his present location and occupation, etc. It is hoped that the desired information will be promptly furnished. If the responses are sufficient in number to warrant doing so, a bulletin, a year-book will be published for distribution at the time of the alumni reunion in June.

TRACK SCHEDULE.

Feb. 19—Annual Freshman-Sophomore meet.

Feb. 26—Ypsilanti at M. A. C.

April 16—Annual cross country run.

April 23—Cross country run at Olivet.

April 30—Varsity meet, M. A. C.

May 7—Notre Dame at M. A. C.

May 14—Sixth annual interscholastic.

May 21—Olivet-Alma-M. A. C. at M. A. C.

May 28—Notre Dame, Armour Institute and M. A. C. at South Bend, Ind.

June 4—Conference meet at Urbana, Ill.

DELPHIC.

Saturday night, Feb. 5, the Delphic literary society held its winter term party in room 401 of the new Agricultural building. The decorations were simple, consisting of pennants and Japanese lanterns. Punch was served in a cosy retreat of red and gold. The college orchestra furnished the music. The patrons of the evening were Prof. and Mrs. Eustace and Coach and Mrs. Brewer.

ALUMNI

'88.

Dr. W. M. Munson, '88, is slowly recuperating from a long siege of illness at Clifton Springs Sanatorium, Clifton Springs, N. Y.

'93.

Clarence E. Holmes, '93, is still superintendent of the School for the Blind in this city.

'97.

C. P. Close, '97, M. S., is state horticulturist and professor of horticulture at College Park, Maryland.

'01.

C. P. Reed, '01, attended the state dairymen's association at Detroit. Mr. Reed is a prominent Holstein breeder near Howell.

'02.

Bert Wermuth '02, is still engaged as associate editor of the "Michigan Farmer". He was at the dairy convention at Detroit in the interests of his paper.

'03.

Jesse Churchill, '03, is located at Denver, Colo., doing surveying work for an irrigation company.

'04.

P. N. Flint, '04, is animal husbandryman at Experiment Station, Ga. Paul is still making good.

'06.

S. A. Markham, '06, is with the Bureau of Lands, Manila, P. I. He is chief of party No. 26, which is surveying land for registration and mapping roads and towns. He expects to return to the states in August for a few months vacation.

'07.

J. S. Myers, '07, is in charge of a surveying party in the province of Ilocos Sur in the Philippine Islands.

'08.

E. C. Krehl '08, is working on the Scott Guernsey farm at Gross Isle.

Vern Gongwer, '08, is with the Tacoma Eastern Railway at Tacoma, Washington.

Jno. Wilber is located at present on the home farm at Birmingham, Mich.

H. M. Conolly, '08, has recently accepted a position as horticulturist in charge of fruit, flower and landscape work at the Baron De Haisch school at Woodbin, N. J.

With '08.

Floyd T. Hart, with '08, is a butter maker for the Kinch Creamery Co., at Pigeon, Mich.

Mr. H. H. Curtiss was a caller at the college on Tuesday of last week. He is at present engaged in the creamery business at De Witt, Mich.

'09.

Myron B. Ashley, '09, is assisting in the experimental work of the chemical department of this college at present.

The M. A. C. RECORD

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CHAS. HENLEY, MANAGING EDITOR

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TUESDAY, FEB. 8, 1910.

THE PROFESSION OF ENGINEERING.

Abstract from an address by Prof. G. F. Swain, Harvard University, before Section D of the American Association for the Advancement of Science, Boston. Dec. 29, 1909.

According to the dictionary, a profession is defined as "a vocation in which a professed knowledge of some department of science or learning is used by its practical applications to the affairs of others, either in advising, guiding or teaching them, or in serving their interests or welfare in the practice of the art founded on it. Formerly, theology, law and medicine were specifically known as the professions, but as the applications of science and learning are extended to other departments of affairs, other vocations also receive the name. The word implies professed attainments in special knowledge as distinguished from mere skill; a practical dealing with affairs as distinguished from mere study or investigation; and the application of such knowledge to uses for others as a vocation as distinguished from its pursuit for one's own purpose.

Up to the present time the art involved in the work of engineering has been more recognized than the science. The engineer has been considered rather a builder than a scientific man, pursuing an occupation rather than a profession.

At a meeting of the council of the Institution of Civil Engineers of Great Britain held on December 29, 1827, it was *Resolved*: that Mr. Tredgold be written to, requesting him to define the objects of the Institution of Civil Engineers, and to give a description of what a civil engineer is, in order that this description and these objects may be embodied in a petition to the attorney general in application for a charter." At the following meeting of the council, on January 4, 1828, a communication from Mr. Tredgold was read and entered in the minutes, bearing the title: "Description of a Civil Engineer, by Thomas Tredgold, Hon. M. Inst. C. E.," as a result of which the charter of the institution describes the profession of the civil engineer as "the art of directing the great sources of power in nature for the use and convenience of man, as the means of production and of traffic in states for both external and internal trade, as applied in the construction of roads, bridges, aqueducts, canals, river navigation and docks, for internal intercourse and exchange; and in the construction of ports, harbors, moles, breakwaters and lighthouses; and in the art of navigation by artificial power

for the purposes of commerce, and in the construction and the adaptation of machinery, and in the drainage of cities and towns."

Since Tredgold's time, however, fields then unsuspected have been added to the profession of engineering, amply justifying the prediction that he made, that the extent of the profession "is limited *only by the progress of science*," and that "its scope and utility will be increased with every discovery in philosophy, and its resources with every invention of the mechanical or chemical arts, since its bounds are unlimited, and equally so must be the resources of its professors."

But in order to sketch even inadequately the scope of engineering, I must ask you to follow with me briefly the historical development of the profession.

The vocation of engineering is as ancient as any of man's occupations. No doubt from the earliest times man has been subject to disease, and *the healing art* in more or less crude form has been practiced; man, naturally a quarrelsome animal, has also from the earliest time engaged in disputes with his neighbors, and in more or less crude form *the law* has had to be administered; and, once more, from the most primitive times, man has realized the presence of some supernatural power, which the *priest*, if only under the title of "medicine man," has endeavored to propitiate. But clearly, man has always required water and food, and has dug wells and employed crude means for raising water and of growing crops. He has also needed habitations, and has required the services of men to build them, so that the hydraulic and the structural engineer or architect may at least claim that their profession is as old as any.

As civilization developed, the work of the engineer or builder developed equally. The Assyrians and Babylonians built arches and bridges, the inhabitants of India built great reservoirs, the Egyptians built pyramids, the Romans built roads, bridges, aqueducts, baths and other important works, many of them of great extent and requiring great skill. But when we read that the construction of one of the pyramids of Egypt required the labor of 360,000 men for twenty years, we see that the work of the engineer was not precisely directed to the uses of others, and we realize the crudeness, in some respects, of the civilization which would permit such waste of useful effort. During the middle ages, with the neglect of learning, engineering declined, but with the revival of learning in the sixteenth century it took on new life, and since that time, with the advance of science, it has progressed probably more rapidly than any other field of activity.

During the early development of the profession, engineering came to be divided into two kinds, civil and military, the latter being concerned with fortifications and with means of offense and defense, while the former included all other applications of the building art. Up to nearly the end of the eighteenth century, Tredgold's definition was somewhat inapplicable, inasmuch as the *sources of power* in nature were not understood, and could be utilized only to a very small degree. Up to that time, engineering comprised mainly the construction of roads, canals and bridges, the improvement

of harbors, river works, the construction of docks, and the supplying of towns and cities with water. The state of the art only allowed of the construction of bridges of very short span, of either stone or wood, since iron had not yet been brought into use, and ferries were generally employed in crossing streams too deep for fording. The steam engine was known only in a very crude and uneconomical form, the weaving of cloth was almost all done by hand, there was little transportation except by sea, cities were not drained or lighted by gas, the applications of electricity were, of course, unknown, navigation by water was entirely by means of sailing vessels or with oars, and the only form in which iron was used to any extent was in the form of cast iron.

But before the end of the eighteenth century there came a remarkable series of mechanical inventions—the spinning jenny by Hargreaves, the spinning frame by Arkwright, the mule by Crompton, the power loom by Cartwright, the modern steam engine by Watt, the puddling process for making wrought iron by Cort, and others. These were followed, in the first third of the eighteenth century, by the development of the steam locomotive by Stephenson, of the steamboat by Fulton, by the inauguration of the era of railroads, beginning for all practical purposes with the victory of the "Rocket" in the competition at Rainhill in 1829, and by the further great improvements in manufacturing, and in the production of iron and steel.

It was just at this time, when the minds of all were filled with the inventions of Watt and of Stephenson, that Tredgold gave his definition, clearly showing the tremendous influence held at that time by the subject of *power*. These great developments greatly enlarged the field of engineering and gave birth to a new class of engineer—the railroad engineer. They led also to the differentiation of the mechanical engineer from the civil engineer. Since that time the mechanical engineer has claimed as his special field the development and use of power in all its forms, including the generation of power from the combustion of fuel and the flow of water by means of the various types of engines and water wheels, the transmission of that power from point to point by means of belting, shafting or other means, and the utilization of that power by machinery. There is hardly a field of human industry, therefore, which is not dependent upon the mechanical engineer, because all manufactured articles depend upon power in some application, and upon machinery operated by power. The field of the modern mechanical engineer, however, not only covers the department of power and its applications—in manufacturing, in the steam locomotive, in the steamship—but it is also held to include the construction of mills, and all applications of steam and heat, such as heating, ventilation, lighting, refrigeration, ice making, elevators and so on.

But notwithstanding the differentiation from it of the field of the mechanical engineer, the field of the civil engineer was itself enlarged by the progress of science and invention. The great impetus given to manufacturing rendered necessary the distribution of the wrong material and the manufactured prod-

ucts. Transportation engineering was enormously increased in its scope, and the new profession of the railroad engineer was brought into existence. Roads and canals, harbors and docks were built with unexampled rapidity and river improvements were extensively carried on. At this time the increase in use of canals gave occasion for the celebrated remark of Brindley, the great canal engineer of England, himself an untutored genius, who, when asked what the use of the river was, replied, "To supply canals with water." At the same time the economical production of wrought iron rendered possible the construction of bridges of unexampled span.

By this time had begun one of the greatest sociological movements which characterizes the present time, namely, the increasing congregation of people in cities. At the beginning of the nineteenth century only three per cent of the population of the United States lived in cities, while at the present time the urban population is over thirty-three per cent of the total. This phenomenon, during the last half of the century just passed, had led to the differentiation of another field of engineering, namely, that of the sanitary engineer, whose specified province is to deal with the problems of water supply, drainage, the disposal of refuse, the purification of water in sewage, the sanitation of dwellings, and the various other problems resulting from this congestion of population.

Improvements, also, in chemistry and in metallurgy, have given rise to still other distinct branches of engineering, namely, mining engineering, and metallurgy, the scope of which I shall endeavor here to sketch.

Again the field of the mechanical engineer has during the past quarter of a century become subdivided, owing to the discoveries in electricity. Steam and water are no longer used simply to propel steam engines or water wheels, producing power to be used on the spot. Steam or other engines, and water wheels, now drive electric generators, the currents from which are transmitted long distances, sometimes as great as 200 or even 300 miles, by means of transmission wires, to be again transformed by electric machinery and used for the production of light or for other purposes. The telephone and the telegraph have been discovered, electric cars have replaced the horse cars, and the passenger traffic of our steam railroads is in some cases being carried on by electric locomotives. Almost everything now-a-days is done or *can be* done by electricity, even to preparing our food and heating our houses. The electrical engineer, with a field already so wide that it is divided into specialties, is a product of the last twenty-five years.

(To be continued.)

74

Geo. W. Brewer, who is in the United States Indian school service at Wadsworth, Nevada, has been transferred to the Indian school at Orr, Minnesota. The Wadsworth Indian school farm has been changed to an experiment station and experts in that line have already begun the work.

84

Colon C. Lillie, '84, has announced himself as a candidate for Lieutenant Governor.

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ABOUT THE CAMPUS

Prof. Patten addressed the farmers at North Adams, February 2.

Instructor H. L. Kempster addressed the farmers' round-up institute at Battle Creek, Thursday.

The rifle club meets Wednesday evening in College hall. Important business necessitates the attendance of all members.

The winter term military "hop" will be given on the evening of March 5th. Fishers orchestra of Kalamazoo will furnish music.

Prof. W. H. French attended the State Industrial Association at Saginaw, Saturday. He will speak at the State Normal school at Mt. Pleasant Friday.

The first rifle match of the season was held in the armory Friday evening. Everybody is welcome to these matches which will be held regularly from now on.

Mr. Simon Hagadorn and W. B. Severance were in Ovid Saturday, visiting the new creamery plant recently put in operation by the Leonard Freeman Cheese and Butter Co.

Prof. Pettit was unable to meet his class Monday because of a severe cold. He spoke before the agricultural extension course at Hillsdale on Wednesday of last week.

The Hort. Club will be addressed Feb. 9th at 6:30 p. m. on the subject of "Fruit Growing on the Pacific Slope" by Dr. D. M. Nottingham, of Grand Junction, Colo. All are welcome.

Prof. Baker addressed the institute at Cassopolis today.

Mr. Gunson spoke before the farmers at Lawton, Saturday.

Dr. Blaisdell is lecturing to the freshmen one hour per week this term on themes and letter writing.

Hon. Augustus C. Carton, secretary of the Public Domain Commission, will address the Foresters' club tonight.

The second team beat Lansing Y. M. C. A. 56 to 19, which tied them with the Y. M. C. A. for lead in city league.

The students and faculty are making preparations to show the visitors at the state oratorical contest a very good time.

Prof. John H. Gill, of the University of Illinois, will address the Engineering Society on the evening of the 15th of this month.

Y. M. C. A. NOTES.

President and Mrs. Snyder very pleasantly entertained the cabinet members of the Y. M. C. A. and Y. W. C. A. at their home from 6 to 7:30 on the evening of Jan. 28. The time was short because of the oratorical contest, which was held the same evening, but a great deal of pleasure was crowded into the brief time. Flowers were in abundance. Each guest was decorated with a violet. Very dainty refreshments were served.

Sunday evening, Feb. 6th, Mr.

V. P. Randall, of Chicago, who, until recently, has been employed by the New York Tenement House Department, delivered in chapel an address, entitled, "The Great American Fraud." Mr. Randall pointed out that the liquor traffic was the greatest of American frauds. He knows, for in his life work he has been in close contact with the terrible conditions in the large cities among the poorer classes. He says that these conditions are most often the work of the saloon. Mr. Randall is employed by the Anti-saloon League and is giving a series of lectures throughout the county this week. He illustrates his lectures with stereopticon views of "Real Life." He is worth hearing.

On Saturday and Sunday, Feb. 19 and 20, the Y. M. C. A. will be given another treat. Winfield S. Hall, M. D., dean of the Northwestern Medical School, is coming to this college. He will speak in the evenings to the young men only. The place has not been definitely decided upon, but will be announced later. Every man on the campus should hear him. Remember the date, Feb. 20th.

'09.

B. B. Pratt, '09, Scientific Assistant in the U. S. Dept. of Agriculture, office of Field Investigations in Pomology who has been in California since his appointment in July, 1909, has recently been temporarily transferred to the Washington office. He returns west March 1st.

A TRIP TO THE NORTH POLE

Was what the Columbians and many of their friends enjoyed Saturday night. Fishers' Orchestra made the various stages in the trip pleasing and extremely interesting by being at their best.

The armory was decorated entirely with wintry scenes, having the girders overhead covered with apple branches which had been calcimined to pure white and mica sprinkled on.

In one corner was a large roomy igloo of true Eskimo type with small tunnel opening. The whole covered with cotton and mica. The opposite corner was a bower of evergreen flecked with snow. Directly in front of the east door was the North pole embedded in a floe of ice and bearing the Columbian Banner encased in ice. A huge snow fort occupied another corner.

Standing directly in front of the west door, facing the orchestra was a snow man of no small dimensions, with attitude and expression of wishing to embrace the whole happy crowd. The windows were decked with snowy pine boughs. The orchestra occupied a canopied dais of white in the centre of the floor, from which they snow balled the dancers, turned out the lights and performed various original tricks while furnishing their own particular grade of music.

The party was a success in every way.

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Suits worth up to \$27.50 for	-	-	-	-	14.95

Women's Coats worth up to \$10.00 for	-	-	-	\$5.00
Women's Coats worth up to \$12.50 for	-	-	-	7.50
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MUSICAL PROGRAM.

Music students under the direction of Miss Louise Freyhofer rendered the following program at the recital in the parlors of the Women's building last Friday evening:

- | | |
|--------------------------------|---------------|
| Polish Dance | Thoma |
| Miss Ernestine Gliem | |
| Love Song | Murkel |
| Miss Lucy Arner | |
| Mandolin Serenade | Bohm |
| Miss Catherine Willison | |
| Valse Brillante | Slunicko |
| Miss Ruth Wood. | |
| Liebeslied | Bohm |
| Miss Lenore Nixon | |
| Minuet | Seeboeck |
| Miss Iva Sherman | |
| Nocturne | Meyer-Helmund |
| Miss Philena Smith. | |
| Les Rameaux—Fantasie Brillante | Faure |
| Miss Helen Sheldon | |
| Intermission. | |
| Rondo No. 1 | Mozart |
| Miss Donna Edwards | |
| Sous Bois | Victor Stoub |
| Miss Jessie Gibson | |
| From Flower to Flower | Kullak |
| Miss Bessie Howe | |
| Duetto | Mendelssohn |
| Miss Irene Carter | |
| Fable | Raff |
| Miss Margaret Hoyt | |
| Barcarolle | Liszt |
| Norwegian Bridal Procession | Grieg |
| Miss Madge Lamoreaux | |
| The Chase | Rhemberger |
| Miss Louise Clemens | |
- The program was well rendered and every one enjoyed a good entertainment.

AUROREAN PARTY.

On Saturday evening, Feb. 5th, the Aureorean Society held its winter term party in the new Ag. building. The hall was simply decorated with the society colors and Japanese lanterns, no attempt at an elaborate scheme being made. Among the out of town guests were the Misses Vivian Parton, Mabel Gibson, Ella Burns and Grace Hill of Grand Rapids, Miss Florence Utley of Flint, Miss Lucille Woodworth of Leslie, Messrs. R. G. Aultman and R. A. Gleason (both with '12)-of Ovid. The college orchestra furnished the music. Prof. and Mrs. Babcock and Prof. and Mrs. Clark acted as patrons.

'05.

Miss Cora Feldkamp, of Farm Management, Department of Agriculture, Washington, D. C., has begun a two months' leave of absence and is at her home near Ann Arbor.

'06.

L. M. Spencer, '06, of the U. S. Patent office, is taking law in the Georgetown University night school.

'07.

Word has been received from LeRoy Darland, '07, stating that he is at Friendswood, Texas instead of Minnesota as the RECORD stated in the last issue. He is engaged in the fruit and nursery business, having recently organized what will be known as the Oakwood Nursery Co.

ex '10.

D. A. Spencer, ex '10, has been with his father on the stock farm at Nashville, Mich. He will be back next year.

Special

Miss Lavina Merrick, of the U. S. Department of Agriculture, is at Corvallis, Oregon, in charge of the seed testing laboratory as conducted under the Bureau of Plant Industry.

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