THE M. A. C. RECORD.
MICHIGAN STATE AGRICULTURAL COLLEGE.
SPECIAL SHORT COURSE NUMBER

FIVE SHORT COURSES BEGIN JANUARY 3

THE SHORT COURSES.

Beginning Jan. 3d, there will be offered at the Michigan Agricultural College five short courses for the benefit of the young men of the state who are anxious to better prepare for the work in hand, but who find it impossible to take a full college course.

The courses offered this winter are:

- General Agriculture
- Creamery Management
- Cheese Making
- Poultry
- Fruit Growing

The inquiries received indicate that there will be a large number of young men at M. A. C. next month to take advantage of one of these courses. Nearly 2,000 have taken this work in the past, and many not only return for a second year, but urge their friends to come also.

The aim is to acquaint young men with the most up-to-date methods of farming, and the best which the college commandments are at their service. The courses are given at a time when the farmer can best leave home, and the enthusiasm with which these young men have entered into the work is certainly good to see. The social life is also a factor. Again there are gathered here many of the best farmers of the state, and the interchange of ideas often leads to some interesting discussions.

This year there will be held, during the short course sessions, the State Live Stock Breeders' Association, State Corn Growers' Association, Poultry Institute, and the Round-Up Farmer's Institute.

THE MICHIGAN STATE HORTICULTURAL SOCIETY

Holds its forty-sixth annual meeting in Benton Harbor on Dec. 6, 7 and 8, in conjunction with the Berrien County Horticultural Society. M. A. C. is well represented at the meeting. On Tuesday, Dec. 6, Prof. Eustace speaks on "More Money for the Apple Crop." On Wednesday evening, Hon. Chas. W. Garfield, of Grand Rapids, gives an address on "The People's Play Grounds." For Thursday's program Prof. Taft tells of "Commercial Insecticides and Their Control," Prof. Pettit talks on "Bugs," and Mr. Patten, of the Experiment Station, presents "Problems in the Making of the Concentrated Lime-sulphur Solution."

THE MICHIGAN STATE COLLEGE OF AGRICULTURE

A BEAUTY SPOTTED ON RED CEED.

MICHIGAN'S SONS AND MICHIGAN'S FARMS.

It is essential to the successful maintenance and development of the agriculture of any state that a portion of the farmer's sons remain on the farm. Michigan agriculture has suffered more from the loss of its farm boys than from any other cause. In many instances they have gone to the cities to engage in professional careers or to take part in industrial enterprises. Another source of attraction has been the expansion west with its vast and varied natural resources. Michigan has given up many of her strongest sons to the development of the west. Our farms have suffered greatly from the loss of the young, strong, ambitious boys. The fathers have struggled along under ever increasing difficulties, until finally the declining strength of years leads to retirement to the town or village and the rental of the farm, or some arrangement by which it is worked on shares. Usually at this point rapid deterioration begins to take place, the soil is robbed of its fertility, fences and buildings deteriorate rapidly without repair or replacement, and fruit and vegetables are rather taken possession. Desirable social conditions do not usually exist in communities consisting of tenant farmers, not because they are an inferior class of citizens, but rather because of short term leases which renders their stay short at best and always uncertain as to the future.

One of the most common topics of the public speaker or writer is that of "How to keep the boy on the farm." This subject is discussed most frequently by maiden ladies and old bachelors as a matter of course, there is really no one really to discuss the subject except the man who owns a farm, has boys of his own and has succeeded in keeping them on the farm."

The prescription most commonly offered is the malaria, the improvement of the home surroundings and the development of better social conditions. As a general proposition, the farmer does not need to be urged to do these things, the question is almost purely financial; as soon as he is freed from financial indebtedness the comforts and luxuries of life are soon suggested. The fact that a farmer boy may have to work steadily and hard and that he cannot spend his days or have a street running past the front door or have a theater party every other night or the lack of these things is not the potent factor turning the boy from farm to city life.

There are two real reasons why the country boy leaves the farm, viz.: (1) He is not permitted to assume responsibilities which will interest and develop him. (2) He is not given a real financial interest in the business of the farm early enough in life. Cases are altogether too rare where the farmer assumes to plan all farm operations, transplant all businesses, and direct each act of the son day after day and year after year. No boy, with the proper spirit, could remain content in assuming the role of the hired man, as is too often the case.

The various short courses are offered to prepare the farm boy for assuming responsibility and for partaking in the management of farm operations and business. These courses, short though they may be, tend to broaden the vision of the younger generation and lead to greater thoughtfulness and more decisive action. They offer opportunities for the formation of associations and development of inspirations which should lead to lives of greater usefulness and attainment.

At the final call for basketball players about 25 men responded. Under Capt. Bush, work has been going on during the month of November, and prospects are unusually bright for a winning team. The schedule will be somewhat shorter than in previous years, but will include much stronger teams, and will be confined mainly to college teams.
PUBLISHED EVERY TUESDAY DURING THE COLLEGE YEAR BY THE MICHIGAN STATE COLLEGE.

B. A. FAUCHE, MANAGING EDITOR

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TUESDAY, DEC. 6, 1910

THIS issue of the Record is mailed to several thousand young men throughout the state who will, we believe, be interested in the special short courses to be given during the coming term.

These courses have been long since passed the experimental stage and each ear the number attending has increased. The college is in better position than ever to care for the work of the short courses and those who attend will receive the best we have to offer, both as to teaching and equipment.

The annual association meetings will be held during the short course session, as well as the Round-Up Fair at the end of the courses. As far as possible representative cuts from the college, who attend will receive the best we can do for them.

We have dedicated this issue of the Record to the cause of the short course students, since they have become a very important phase of the work at this institution. Almost every one of the men who have been benefited and have returned to the farm with a new meaning of what country life holds for them. Several members of the faculty have kindly contributed material concerning the particular work offered by their departments, and as far as possible representative cuts have been used.

If you receive two copies of the paper please hand one to your neighbor.

NEW SOCIETIES.

Two groups of freshman societies were organized on Saturday evening, with about 25 members each. One of them was the Freshmen Literary Society and the other the Beta.

Each society outlined, as a part of its constitution, a minimum literary program. This program, which is to be given each Saturday evening, is to consist of one declamation, one original oration, five extemporaneous speeches, and either a debate or a drill in parliamentary practice.

Much credit is due the members of the first society, and the members of the program consistently carried out will result in an improvement along the line of public speaking.

With '05, R. J. West is with a large color and wall manufacturing house in St. Louis, Mo.

"Red" Dickerson of the above class, and the first M. A. C. student to take the M. P. degree at Yale in one year, has returned to Oregon. He has just been ordered out on a planting expedition and will have gone to the Minnesota region, which is to be done in the Siuslaw region.

The Short Course Student.

Since the establishment of these courses in 1895 they have been attended by 1,850 men and boys, not including those enrolled for one week sessions. While the great majority have come from the country, the professions, trades, and various industries have been represented as well. The millionaire and the laborer have been seated side by side, as well as the beardless youth and the gray haired man. While the entrance requirements are low, the percentage of short course students who have attended high school has been continually increasing. These courses have been patronized by graduates of some of the outstanding institutions in America where agriculture was not taught.

The work offered in these courses consists of a variety of the most practical work in agriculture and elementary science pertaining thereto. The courses are offered during the short course session. At least ten or a dozen extra instructors, experts in their special line of work, attend these courses to assist the permanent corps of professors and their assistants.

Upon the completion of the short course most of those who attend will return to their homes with very few exceptions, return to farm work. As these young men take the M. F. degree at Yale in line of public speaking.

The generous treatment accorded short course students by regulars during the past two or three years has been so marked as to be deserving of notice. Assistance has been freely given by means of demonstrations, advice given by experts in their special line of work, the profiting by their mistakes, the inspiration gained in judging, and in addition special evening entertainment and amusement programs during the past two years. The enrollment has remained practically unbroken, without accident, sickness or other disturbing factors.

It is the aim of the poultry department to plan its work this coming year so that any person who can get poultry work in a short time. It is hoped that others may be secured to assist in making the best use of the time. The eight week's course in Poultry Science will consist of feeding birds for egg production, the demand for the eight weeks' course, affords the business man, the poultry fancier, and the student judging contest will be held this same week. No entry fee is required; score cards and ribbons will be given. Breeders are requested to send in their birds and also to come along if possible and learn all they can in regard to the particular breed in which they are interested. At this time the regular student judging contest will be held.

In presenting this work, the department has in mind the desire of the demand for an opportunity to get poultry work in a short time. There are so many that cannot leave their work for that long a time. A week complete in itself perhaps will fill their want. Some cannot be here all the week. A day or two will do a great deal of good. It is hoped that advantage will be taken of the opportunities. The poultry farmer cannot afford to miss it.

DEBATING CLUB.

The debating contests held Wednesday and Thursday evenings resulted in the choosing of the following candidates for the next debate on Wednesday evening of this week:

1st Section.

Affirmative: Negative
Close Barnum Crane Ewing
Coom Crantow

2nd Section.

Bouditch Wilcox Launier Margolis
Ewing Powell

The judges in this debate were Tunglen and Kempster.

The M. A. C. RECORD.

ALUMNI.

The M. A. C. RECORD.

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Soon after the appearance of Dr. Eugene Davenport's "Principles of Breeding," there came many requests for a pamphlet on similar lines, but less technical, and better adapted to high and normal schools. To meet this demand, Dean Davenport wrote "Domesticated Animals and Plants," which fully answers the needs of the general student.

The main purpose of the work is to stimulate a popular interest in agriculture and the preparation for the affairs of country life. Most of the literature dealing with heredity and domestication is too intensely technical for the ordinary reader, and it is in offering this that "Domesticated Animals and Plants" accomplishes a large share of its mission. In advancing the general program of the University, a weekly periodical has been published over the signature of Dr. Davenport. The M. A. C. Record has been written with the aim of introducing to the public the achievements of the University of Michigan in the development of the agricultural sciences.

The Record is published five times a year, in October, November, December, February, and March. It is mailed to all members of the Classes of 1909 and 1910, and is now sent to more than 2000 members of the Class of 1908 and 1909. The record of the University is thus brought to the attention of a large number of the older students who have been graduated and are doing service in the various States and the foreign lands. The Record is distributed to all the high schools in the State of Michigan, and to the public schools and colleges of the State.

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THE FRUIT COURSE.

Fruit growing in Michigan is developing very rapidly and each year becomes more remunerative. To be successful requires a practical knowledge of how to handle the crop. Every grower, no matter how well prepared, must have a knowledge of plant diseases and insects and the most approved ways of controlling them. To know something about soils and the "why and how" of tillage; the fertilizer elements and how to apply them, is of greatest importance. Thousands of dollars are spent for commercial fertilizers every year by growers. But the successful fruit grower must understand how to buy and how to mix and apply them in the most economical way. During the past few years the gas engine has come into very general use on many fruit farms and it is highly desirable that every man who has to handle a spraying outfit should have a good understanding of the principles of the gas engine and know how to operate and care for the equipment. Experiments for this current year are now under way on power spraying outfits.

During the four weeks of this fruit course, every facility of the college will be given to the student a practical knowledge of the above subjects.

Fruit growing will be thoroughly considered from the selection of the site to the marketing of the crop. A large collection of varieties of fruit from the college orchards and the South Haven experiment station, are being held in cold storage for study, and every member of the class will have an opportunity to become thoroughly familiar with all the varieties of Michigan winter fruit. In addition, the department of horticulture has secured, from many other states, collections of apples and these will be compared with the Michigan kinds. A large collection of apples has been secured to show the results of spraying with the Bordeaux mixture and the newer mixture known as line-sulphur. This collection is one of the greatest interests to fruit growers in Michigan at this time.

The importance of practice of spraying will be highly discussed and each student will be expected to make and test every kind of spraying solution, copper arsenate in two weeks. A large collection of spraying appliances will be on hand to be tried and tested.

One of the pleasant features of this course will be the talks to be given from time to time by some of the successful fruit growers of this state. It will be an inspiration to meet and hear these men tell of their experiences.

The business of renting and improving apple orchards in Michigan is now an important one and some of the men who are taking this work on a large scale will tell of their methods.

Michigan is constantly receiving inquiries for young men of some practical experience and a knowledge of the fundamental principles of fruit growing to fill positions as managers and superintendent. The positions frequently carry a salary and a percentage of the profits, and offer attractive remuneration for men who do not have the capital to start in the business for themselves.

Horticultural Building, where Lectures in Fruit Growing will be given.

SHORT COURSES IN DAIRYING.

Michigan is more and more becoming a dairy state. Localities where none but general farms were operated are now rapidly taking up dairy farming. Pure bred sires are being purchased by individuals or by associations, and the quality of the dairy stock is being greatly improved. Larger herds are being kept, and more attention is being paid to the scientific principles underlying dairying.

The increasing of dairy herds has necessarily caused an increase in the number of creameries and cheese factories. A demand for more men to have charge of dairy operations, both from a producing and manufacturing standpoint, has naturally followed. An effort has been made to educate these men at the place where these operations have been carried on, but it has been found that a man cannot become proficient along his line of work without having a thorough technical training along with his practical. The employer, whether producing the product or manufacturing it, is demanding that his help have technical training along his line, and therefore it has become essential.

The dairy short courses are designed to give the dairyman the technical training he desires. Four courses are given, one to one to the men who wishes to take up the producing end, and three to those who wish to become manufacturers. The first is given in connection with the second year general agricultural course, known as farm dairying. The others are the first and second year creamery butter making and the cheese making courses. These are distinctively separate courses.

The course in farm dairying is of four weeks' duration. In this course all the underlying principles of creamery buttermaking are covered. One-half of the time is spent in the lecture room in the study of the theory of creamery practice, dairy bacteriology, and dairy arithmetic and bookkeeping. The afternoons are spent in practical work in the creamery. The class is divided into sections which are so arranged that each student gets work along the lines of pasteurization, starter-making, cream ripening, churning, testing of milk, cream and butter, creamery mechanics, and care of the factory. Essential emphasis is laid on starter making and the rolling of gathered cream. No essential point in creamery work is overlooked, and an effort is made to give each student personal attention and advice.

The second year creamery course is for those who have taken and successfully finished the first year course, and have made a satisfactory record. The first year course fits men to become ordinary buttermakers, but this course is designed to make experts — one who is not only able to meet any emergency arising in the dairy, but to manage and have entire responsibility of the factory. This work is very much of the time being devoted to a laboratory course in dairy bacteriology and experimental work. Such phases as creamery management, factory construction, advance creamery practice, and the feeding of dairy animals are given in detail. This course lasts for six weeks.

The course in cheese making is very similar to that of the first year creamery course. The lectures give are practically the same, except all matters are presented in such a manner as will apply to cheese-making. Making the successful cheese requires very specialized knowledge. Such phases as cheese- making factory construction, cheese-making experimental work in the manufacture of soft Michigan, Cheddar and Cheddar cheese, and factory mechanics. This work is of intensely practical nature, teaching the student how to cope with all the difficulties that beset him in the factory. This course is of four weeks' duration.

Two noticeable changes in the courses offered in recent years are the lengthening of the first year creamery work to six weeks, and the cheese making course being given in conjunction with the first course. Of the first year course, it heretofore having been given immediately after the closing of the creamery course.

A considerable new apparatus will be installed before the opening of the dairy course, which will have such a small amount of work that already at hand, will make an equipment fully as good as that found in any similar institution in the country. Mr. Simon Hagedorn, of Benton, and Mr. R. B. Gilbert of Pontiac, who have assisted in the last two short courses, have again been engaged to help in the creamery work, and Mr. Claus. Dear of Novi, who last year, will again have charge of the practical work in cheese making. These men are practical, experienced men, and have proved to be very efficient along their lines. With their assistance there is no doubt but that the courses will be as thorough and instructive as in former years.

The Dairy, where Instruction in Creamery Management, Butter Making, and Cheese Making is given.

HORT. CLUB.

B. A. Faunce delivered a very interesting talk on his agricultural experience in Emmet county. Mr. Faunce told of his success with market gardening, and with live stock while waiting for the fruit trees to mature, and proved that by being near a good market there is little chance for failure. Many of the people with little capital who are encouraged over their chances of owning own homes. It was one of the most interesting and practical talks of the year.

Mr. Dayharsh gave the history of the Grimes golden apples, which were the refreshments of the evening. The following officers were elected for the year: F. C. Dayharsh; Vice President, F. J. Goden; Sec'y and Treasurer, F. C. Smith; Secretive, R. G. K. A. package, from Ripley and Gray, and destined for the Drawing Dept., has been left with some other department, who will appreciate its return, as it contained valuable material.
THE FOOTBALL BANQUET.

STUDENTS PRESENT MR. BREWER WITH HAND-SOME GOLD WATCH.

The management certainly deserved the manner in which every detail of the big meeting was handled, on Friday night. It is not because of the question of doubt that students and faculty alike were proud of the record of our team, but rather further that Mr. Brewer carries with him to the new position at Columbia the best wishes of all.

The college orchestra furnished excellent music, and shortly after eight the victors marched in and were seated at a long table in the center of the dining room at club D, Wells Hall.

The young ladies from the Women's building served at the eight course dinner, and deserve great credit for the success of the feast.

Coach Brewer was the toastmaster of the evening and was, of course, the person of all others everyone was anxious to hear on this the eve of his departure from M. A. C. Mr. Brewer dwelt much on the character and ability of his men, several of whom had recently been given places of prominence in western football. He stated that the one feature which made this season's work of so great importance was the harmony which had existed, the respect in which each held the other made possible the results of the season's work.

Mr. Brewer paid a fine compliment to the Lansing citizens and press, stating that their loyalty was, in no small measure, a factor in our successes. He then spoke of the development of the team this season, the fact that until the Michigan game ours was an uncertain quantity. At that game the M. A. C. team understood as never before what loyalty means. The backing they received at this and subsequent games put fight into them as nothing else could.

This is a hard proposition for our big hearted coach. He told of his love for the old college and how he wished his successor be given the same loyal support which had always been accorded him.

Capt. Cortright responded to the "Ups and Downs." Enthusiasm by students, ability of our coach, and the splendid loyalty of friends have made this year's success possible. He spoke of the honors received in western football this season, paid a fine compliment to his coach, and disposed of many winning victories for next year's team with a man like Stone as captain.

Prof. Halligan, a former eastern football man, compared the western with eastern coaching, which showed which was more necessary for the former. The fierce driving methods are used in the east, and it was with the hope that he watched Coach Brewer's tactics at first, but results convinced him that western methods were more nearly ideal.

Prof. Westen, of Lansing, was given a fine reception by the students. He stated that he brought a squad of 35,000 people from Lansing, and spoke of the development of the comprehensive system now existing. "Lansing people," said he, "are as much interested in M. A. C. and her successes as her students as her old college.

One of the Finest and Best Equipped Buildings for the Study of Agriculture in the Country.

ALFALFA BREEDING AT M. A. C.

Farmers generally over Michigan are beginning to recognize the fact that alfalfa is really more valuable, as feed, than any other hay, clover not excepted. It yields far greater quantities of hay than can be obtained from any other crop.

An example is given from Experiment Station experience. In April 1908 a series of 1-10 acre alfalfa plots were drilled in on corn land of 1907. The plots were planted from seed from different sources. The piece yielded a small cutting in 1908, three crops of hay in 1909, and four crops in 1910. This has amounted to twelve (12) tons of cured hay per acre in three years. This is easily twice what can be expected from clover under favorable conditions. The piece of alfalfa shows as much promise as ever and will yield well in 1911. Clover at the end of three years would be gone.

The series was duplicated to include native and four varieties of alfalfa. The plots were, of course, doubled to that end, with the view that we may distribute to breeders. The other five lots were in- planted with a garden drill. Farmers generally over Michigan as well as quantities of hay.

The seed problem is a difficult one. We cannot expect success, just so with the many progenies or families of plants. This we hope to do after two more years. Until then the only farmers that we can help are those who wish to cooperate with us. We have the seeds of a few individual plants, but wish to breeders. An envelope contains the seed from just one plant. The seed should be planted in a row in the garden where it can be cultivated. If the cooperators receive a number of en- velope he should plant this seed in as many rows. The object is to see which is the best. He could sow seed from these rows to start a strain of alfalfa suited to his condi- tions. The breeding rows should be at least two feet apart and on a right line.

Alfalfa growing is handled, on Friday night.

In 1907. As in breeding animals we can hope for success, just so with the many progenies or families of plants. This we hope to do after two more years. Until then the only farmers that we can help are those who wish to cooperate with us. We have the seeds of a few individual plants, but wish to breeders. An envelope contains the seed from just one plant. The seed should be planted in a row in the garden where it can be cultivated. If the cooperators receive a number of en- velope he should plant this seed in as many rows. The object is to see which is the best. He could sow seed from these rows to start a strain of alfalfa suited to his condi- tions. The breeding rows should be at least two feet apart and on a right line.
The breeding work at the experiment station is expanding each year. In 1891 the alfalfa nursery was expanded until it contained 4,125 individual plants from 104 different sources. These were planted in 1890 until we have alfalfas from all over the world, from 125 different sources.

As already mentioned, we are keeping individual records of hay and seedling yield in our nurseries. The hay crop is tagged and hung on lines indoors to dry. There is not a single seedling obtained for the cured hay produced by each individual plant. This is done with a spring dial scale. In the field this scale is easily supported. It is attached to a tripod surrounded by a sheet to keep the wind from blowing against it. The select seed producing plants are also tagged when ripe and hung near our special individual thousand to be weighed, dried, and threshed at the proper time. The seed is stored in special individual envelopes in tin boxes to keep mice away. From the records we select the most desirable lots to become our strains of future generations.

A third generation nursery was planted in late 1910 from plants of the second generation nursery. It was interesting to see how a few details regarding one of our strains of alfalfa. The mother of this strain started from a seed in April, 1907. The seedling had produced hay and seed enough to be sold as one of the best in nine. She is still alive and still productive in 1910 twice as much hay as she did in 1908, when she was selected to become mother of new progeny in the second generation nursery 1909. She also produced a good crop of seed for 1910.

The row produced from this plant stood the ice sheet well, February, 1910, and has produced large amounts of hay and seed in 1910. Most of these plants produced seed in their first year. One of these plants which flowered from seed in the spring of 1909 produced over ten grams of seed that first year, and another produced 153 grams of dry hay besides an additional 116 grams of dry hay. It may be interesting to some to remember that the second generation nursery was expanded until it contained 4,128 individual plants from 104 different sources.

The New York Club has secured a special car attached to "Wolverine," on the Michigan Condensed Milk Co. plant Thursday of last week, and on Saturday took a trip to the Michigan Symphony. The carpenters have finished the work in the finishing of the veterinary laboratories, and the painters are putting on the finishing touches. The rooms will soon be in shape for occupancy, and will be used by the college term.

The Christmas Bazaar held in the Chapel Saturday afternoon was a success in every way. The articles offered were many and varied, the patronage good, and the church ladies said they cleared over $100 on the sale.

Instructor Liveness with his senior class in butter making visited the Michigan Condensed Milk Co. plant Thursday of last week, and on Saturday took a trip to the Michigan Symphony. The carpenters have finished the work in the finishing of the veterinary laboratories, and the painters are putting on the finishing touches. The rooms will soon be in shape for occupancy, and will be used by the college term.

The Student Citizenship League has been decided to the number of subjects and on a very narrow scale. The increase of population and the increase of wealth caused the number of schools to increase, while the curriculum has been greatly expanded and improved as well as added to the number of students. The rural school building today has more than one room and practically none have been equipped with apparatus and tools in order that the additional part of the state may be properly presented. Efficiency in pupil and teacher cannot be secured, and the result is discouraging to the teacher, and especially to the child. School work is too often a carelessness of the pupils, both in and out of school. The public schools are created by the state for the purpose of developing and training the future state. The public schools are the only bottom; that is to say, the quantity and quality of the work done in the public schools is of vital moment to the state, because a large
number of people desire that in addition to the subjects now taught instruction shall be given in manual training, domestic science, drawing, and agriculture, and the argument for the introduction of these subjects is based on the opportunity for the child to apply the information secured from his books. This argument is good, but it inevitably brooks no modification to face with the limitations of the rural school teacher. She has already more subjects to teach than she wants, and the case becomes even more insuperable when failure. The books are bulky, verbose and impracticable. She has no room and no time to find the means to the end. The conclusion is that these subjects cannot be taught, nor can the school be made to respond properly in results under the present system of instruction and management.

It must be admitted that each of these ideas is solid and genuine, and we should recognize that no one plan would meet all the conditions. In some districts the state one plan would work well, while in other places, other plans would be more effective. The first step must be to select the state's plan, the first great step to be taken in the improvement of the rural schools is the establishment of the township district, or some other system which will afford high school privileges for every child. This plan would immediately solve the problem of organization, as the people of each township would provide a sufficient number of schools, and would of necessity provide high schools.

One writer has said that in order to secure from our schools such results as all people desire we should have fewer subjects to teach, fewer poor teachers, and a larger expenditure of money. The school should be a place where the child comes in contact with proper objects of knowledge which he can love and understand. The school is such a one as will enable the child to acquire habits of health and skill by means of such knowledge, and not associate with it, as he must in many cases today, discomfort, dulness, meagerness, lack of opportunity and lack of application.

To improve the public school we must first provide a proper school house. This means a well, comfortable school room, the best textbooks, a good shop or work room, and a trained teacher. If schools cannot be consolidated the people may be called upon to build in their building where we may find a kitchen where the simpler lessons of domestic science may be put into practical operation; a shop which will contain a work bench and the necessary tools, a plow, a cultivator and such other farm apparatus as may be necessary; and a museum for the exhibition of the products of the kitchen, or the bench, or the garden and farm. This museum may become at once a museum and a work shop, a place where the vital energies of the child are given use, and the knowledge from books may be utilized in artistic, cathetic and practical production, and this constitutes what we may term the practical in education.

It is a strange fact that thousands of children have grown up in rural communities, and have received what training their school affords, and have been in touch with nature for years, and yet are thoroughly ignorant of the world which surrounds them. Some one has said that "the schools are valuable because they keep the child close to nature. The results of rural education do not show that the child of the past has realized any such instruction.

The purpose of the introduction of such subjects as manual training, domestic science, domestic art, music, drawing and agriculture into the curriculum of the public schools does not mean that we shall turn out of the public schools experts in any of these lines, but it does mean that these subjects have a relation to the regular academic subjects, and that a curriculum including them will enable the child to discover himself and his latent abilities to a greater degree than do the schools as at present conducted.

The Veterinary Laboratories are being Remodeled to Meet the Needs of the New Course in Veterinary Medicine.

The student, on leaving the public school after having taken a course in manual training, would know how to prepare herself to be an expert cook, but she would understand the fundamental underlying principles of domestic economy and also whether she has any particular skill or aptitude along that line. The same may be said for all the other subjects mentioned.

The latest suggested addition to the curriculum of the public school is the subject of agriculture. Preceding it, of course there should be work in nature study. Nature study does not mean an added task for the child or the teacher, but it does mean a new point of view, a new vision. As the child studies the germination of the seed, the manner of the plant's growth, the drawing and composting of the soil, and the effect of moisture and temperature, he will from this information become at once a farmer.

In his study of the propagation of plants, the culture of the fruit, flowers and trees, and the care and the use of animals he will not become the expert horticulturist or livestock producer, but he will catch a glimpse of a great creative power, of a great possibility, and his life will expand through the application of his mind to the production of vegetable and animal life.

In the solution of the school problem today there are two cleavages of prime importance. The first is the teacher. Before we can have industrial work presented in the public school we must have teachers who have had special preparation in order that the work may be presented from the proper standpoint and under proper pedagogical principles. In Michigan we have four State Normal Schools whose particular business is the preparation of teachers, and the work of these Normal Schools must be made to harmonize with the demands of the industrial and social world. We have county normal training classes in forty counties whose particular business is the preparation of teachers for rural schools.

Each State Normal School can present the fundamental points concerning industrial education, and the Agricultural College is an institution to teach agriculture and the mechanic arts, and it is therefore peculiarly fitted to meet the needs of the teachers in manual training, domestic science and agriculture. It will aging outlook at this time I believe the outlook is most hopeful. It is true that the child of today, because he is deprived of these improved conditions and opportunities, will of necessity have his real life shortened, but even the child of today is catching a new inspiration because of the demands of the home for those things which constitute the higher life, and the face of this great rural problem instead of being a problem of generations is really only a problem of years.

MICHIGAN FARMERS' INSTITUTES FOR DECEMBER.

COUNTY INSTITUTES.

Montgomery Co.—Atlanta, Dec. 14 and 15.

Ogesee Co.—Vanderbilt, Dec. 13 and 14.

Cheboygan Co.—Wolverine, Dec. 16 and 17.


Wexford Co.—Manistee, Dec. 21 and 22.

ONE-DAY INSTITUTES.

Wexford Co.—Brackley, Dec. 31.

Wexford, Dec. 7 and 8.

Alpena Co.—Wilson, Dec. 6.

Summit, Dec. 9.

Alpena Co.—Cranston, Dec. 16.

Kalkaska Co.—Excelsior, Dec. 6.

White, Dec. 15.

Kalkaska Co.—Cranston, Dec. 16.

Kalkaska Co.—Cranston, Dec. 16.

Luce Co.—Lakefield Twp., Dec. 8.

Newberry, Dec. 9.

Alpena Co.—Wilson, Dec. 6.

Hubbard Lake, Dec. 7.

Cathro, Dec. 8.

Mason Co.—Onaway, Dec. 13.

Osceola, Dec. 10.

Osceola Co.—Wilber, Dec. 12.


Sherman, Dec. 15.

Alabaster, Dec. 16.

Osceola Co.—Reed City, Dec. 10.

Hersey, Dec. 12.

Kalamazoo Co.—Oshkosh, Dec. 15.

Schoolcraft, Dec. 16.

Pavilion, Dec. 17.

Stotts, Dec. 19.

Climax, Dec. 20.

Augusta, Dec. 27.

Cooper, Dec. 22.

Alano, Dec. 33.

Van Buren Co.—Bloomfield, Dec. 12 and 17.

Hartford, Dec. 14 and 15.

Paw Paw, Dec. 16 and 17.


Osceola Co.—Cranston, Dec. 16.

Cranston, Dec. 16.

Pentwater, Dec. 22.

FARMERS' CLUBS.

On Tuesday, Nov. 28, J. Oliver Linton gave the Farmers' Club a very interesting and instructive talk on the "Embryology of the Chick." He traced the growth of the chick embryo from the first appearance of the "primitive streak" until the young chicken picked its way out of the egg.

Mr. Linton discussed his subject very clearly, especially so for the time he had at his command.

Next week the officers for the winter term will be elected.
A fine new safe has been installed in the new post office.

Prof. Anderson attended a meeting of creamery managers held in Grand Rapids the past week.

Secretary and Mrs. Brewer spent a few days recently on the home farm at Schoolcraft, where Lakin, 70, is manager.

Little Eleanor and Francis Brewer were given a party at the home of Prof. and Mrs. King on Tuesday evening of last week.

Prof. French was in Grand Rapids on Thursday of last week, where he spoke before a meeting of the teachers of the public schools. He discussed "The Development and Use of the Primary School Money."

The American Portland Cement Co. have donated to the college the right lung and shoulder of a man who was wanted, when a boy of 13 years, at the direction of his mother, fired a charge of shot through the door. The charge entered the right lung and shoulder of Mr. Matthews, but he managed to drive three miles to Mt. Clemens and tell the story.

The American Portland Cement Co. have donated to the college the use of 31 excellent lantern slides, to be used by our department of Farm Mechanics. Twenty-eight of the thirty-one slides furnished are colored plates. The pictures are on cement as a structural material, and more of them are promised if desired. The plates include the mixing of cement, the farm gravel pit, building fence posts and many other ways in which this valuable article may be used.

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ABOUT THE CAMPUS

Instructor Burt was on the sick list a few days the past week.

The short course students will have privilege of the bath house, under same conditions as regular students.

The last student pay day for this term is Wednesday, Dec. 14. Be sure and place this date on your calendar.

Instructor Gaylord, of the forestry department, has resigned his position to become assistant for the New York Fish and Game Commission. He left last week to take up the duties of his new position. No one has as yet been secured for the vacancy caused by his resignation.

Here is loyalty for alma mater: Lewis B. Hall, '82, of Grand Rapids, writes that he expects to ship his calendar. Here is the common one. He found the true cherry birch does not occur here, while another not recognized here is the Allegheny birch.

Miss Ruth Brusselbach, '14, has been ill at her home in Haslett the past week, from results of vaccination. Miss Jean Lovejoy, '15, was also confined to her room for a few days with like trouble.

Varieties of Fruit Originated in Michigan is the title of special bulletin No. 44, by Prof. S. W. Fletcher, former professor of horticulture at M. A. C. The first manuscript was lost, thus causing delay in this publication.

Beasley recently sent all of the specimens of Michigan birch to Prof. C. F. Sargent, of the Arnold Arboretum, Harvard University, who is an authority on trees of the country. In looking them over he found that a certain species of birch credited to this state does not occur here, while another not recognized here is the common one. He found that the true cherry birch does not occur here, and the one mistaken for it is the Allegheny birch.

Prof. M. A. Cobb of the Normal is the kind of teacher the taxpayers of Michigan are pleased to have serve them. He is head of the department of agriculture at the Normal and he doesn't content himself with merely asking questions found in a book of his students. But he is conscientious in his purpose to make suggestions for the improvement of practical farming, and he doesn't confine his work to his scholars either; but invites the co-operation of the farmers of the community.—Mont Pleasant Times.

Professor Cobb received the degree of B. S. at M. A. C. in '88.
ASSISTANT IN AGRICULTURAL EDUCATION (MALE).

DEPARTMENT OF AGRICULTURE.

DECEMBER 23, 1910.

The United States Civil Service Commission announces an examination on December 24, 1910, to secure eligibles from which to fill vacancies as they may occur in the position of assistant in agricultural education in the Office of Experiment Stations, Department of Agriculture, at salaries ranging from $1,400 to $2,000 per annum, and vacancies requiring similar qualifications as they may occur in any branch of the service, unless it shall be decided in the interest of the service, to fill the vacancies by reinstatement, transfer, or promotion.

The duties of the position will be performed chiefly at Washington and will include correspondence, report writing, abstracting, editing, and the preparation of original articles concerning the different phases of agricultural education, including instruction in regular college and school courses, and the various forms of extension teaching, farmers' institutes, etc. There will also be considerable field work, i.e., work outside of Washington studying educational institutions and problems, attending conferences, and giving addresses at important public meetings.

Men only will be admitted to this examination.

Competitors will not be assembled for any of the tests.

The examination will consist of:

1. Undergraduate education and training...

2. Postgraduate training practical experience...

3. Thesis and publication (to be submitted with application)...

SUBJECTS AND WEIGHTS.

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<th>Subjects</th>
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<tr>
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<td>Postgraduate training</td>
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<td>Thesis and publication</td>
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Total: 100

Age limit: 21 years or over on the date of the examination.

Applicants for this examination will, under the provisions of a recent act of Congress, be required to show that they have been actually domiciled in the State in which they reside for at least one year previous to the date of the examination. This examination is open to all citizens of the United States who comply with the requirements.

This announcement contains all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required.

Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for application and examination Form 304 and special form. No application will be accepted unless properly executed and filed, in complete form, with the Commission at Washington, with the material required, prior to the hour of closing business on December 24, 1910.

In applying for this examination the exact title as given at the head of this announcement should be used in the application.

Issued November 21, 1910.

Tasunichi Matsuda, special in 10-9-S, was a college visitor, Friday. Mr. Matsuda has recently purchased fourteen acres of irrigated land in Yakima Valley, and is planning to select the greater part of the plant fruit trees. He was visiting the live stock show, and was only in Michigan a day or two. He is very enthusiastic over the western country, and believes there are great opportunities in the famous valley.

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