

The M. A. C. Record.

VOLUME I.

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THE NEW DEPARTURE.

All former students and friends of the Agricultural College will no doubt take a lively interest in the success of the newly established Women's Course and in the changes rendered necessary by the introduction of this course. The most apparent change thus far is in the number of ladies seen in our classes and about the campus. There are at present thirty-two lady-students, and instead of an occasional solitary co-ed we now see groups of eight or ten. Everything possible is being done for their comfort and to make their course a pleasant and profitable one.

Abbot Hall has been given over to their exclusive use and has undergone numerous changes and repairs. The two rooms at the right of the front entrance have been united into one and have been neatly papered, painted, and furnished for parlors. A piano will soon be added for the use of those who take music and who already play. The first room at the left of the front entrance is occupied by the matron, Prof. Edith McDermott, and has been papered and painted similar to the parlors. The remainder of the rooms have been newly papered, the floors painted and other woodwork oiled, for the use of lady-students. Each room is furnished with two white iron bedsteads with springs and mattresses, a commode, dresser, toilet set, and chairs. Other furnishings, such as carpets, rugs, bedding, curtains, pictures, etc., are supplied by the occupants of the rooms.

But the greatest change that has come over Abbott Hall appears in the wing. Above the old dining room and kitchen has been built another story, which contains the model kitchen, a storeroom, cloakroom, and cook's room. All of these rooms are finished in southern pine, with hardwood floors, and contain all modern appliances for scientific cooking. In the dining room below small dining tables have taken the place of the old long tables formerly used, and the entire equipment is new. The ladies' club will be run under the Students' Boarding Club Association, "but board will not cost us \$2.00 per week," says Miss McDermott.

The building is supplied with electrical appliances, bells connecting the kitchens and dining room and matron's room, which, together with the parlors and halls are also lighted with electricity. New bath rooms will be fitted up in the basement. Outside a new stone walk has been laid from the north entrance to the old walk; the drive around the north end of the building has been sodded over, and the front drive has been narrowed by sodding a strip about ten feet wide next to the building. Considerable of the bare ground at the south end has also been sodded over, all of which makes the surroundings much more attractive than formerly.

The Women's Course will follow the general plan of the Agricultural Course. Agriculture, farm work, drill, and a few other things in the Agricultural Course will be omitted, and in their stead cooking, calisthenics, advanced drawing and painting, German, French, millinery, floriculture, kitchen gardening, domestic economy and music will be given. The entire course will be made as attractive and practical as the abundant resources of the College and the experience of a trained matron can make it. Professor McDermott's thorough training along the lines of domestic economy and household science, first as a student at Drexel Institute, and afterward in charge of this department of work in a large industrial school, gives assurance of the successful carrying forward of the work begun this year under such auspicious circumstances.

Y. M. C. A. RECEPTION.

The annual reception of the Y. M. C. A. to the incoming class will be held in the room of the association on first floor of Williams hall, next Friday evening, from 7:30 to 10 o'clock. An attractive program has been arranged, which will be interspersed with games. A cordial invitation is extended to the whole college population. Come out and improve this opportunity to get acquainted.

One morning at breakfast in the Saugatuck camp the campers were struggling with tough veal, when one of the boys remarked that that veal must have been a three-year-old. One of the girls innocently inquired, "Would that make any difference?"

LIEUTENANT BANDHOLTZ.

Lieutenant Harry H. Bandholtz, the recently appointed professor of military science and tactics in the College, was born in the village of Constantine this state in December, 1864. He entered West Point military academy in 1886, receiving his appointment through Congressman, now Senator, Burroughs. He was the successor of Lieutenant Simpson from the same Michigan district, and at West Point was in the same cadet company with Lieutenant Lewis.

Immediately upon graduation, in 1890, Lieutenant Bandholtz was stationed at Ft. Thomas, Kentucky, where, however, he remained but a short time, being almost immediately ordered to Ft. Ontario at Oswego, N. Y., where he remained for a year and a half. He was then returned for a year to Ft. Thomas. In the summer of 1893 he was on duty at Mt. Vernon Barracks near Mobile, Alabama. Here he had charge of some Indian prisoners of war, including Geronimo's famous band of Apaches and other subtribes. He had also command while at this station of a company of Indian soldiers in the regular army. He was next ordered to attend a rifle competition of the Depart-



ment of the East at Ft. Niagara, N. Y., from which place he was transferred back to Ft. Thomas, Kentucky, where he was stationed when he received his appointment to this college. During his last year at Ft. Thomas, Lieutenant Bandholtz was employed by the city authorities of Cincinnati to organize and conduct a military department in connection with the Cincinnati House of Refuge, an institution for homeless and wayward boys. For the last two years he has also had charge of military gymnastics at the Ft. Thomas post, a new feature which has been adopted at all the military posts in the United States within that period. Prof. Bandholtz is an enthusiast on the subject of physical culture and hopes to enlarge that feature of the military department here. He has promised the readers of the Record an article on the subject in the near future.

Lieut. Bandholtz received his appointment here only after the first of the present month. He is already on the grounds however with his wife and child, a boy of five years. The work of getting settled in his new quarters is causing a few days delay in beginning his College duties but he hopes to be able to meet the students for class work and drill before the close of the present week.

INVENTORS.

We are indebted to Cyrus H. McCormick for a copy of *Inventors*, which he recently donated to our library. It is one of the "Men of Achievement" series published by Scribners, and contains biographical sketches of leading American inventors. Among others is an excellent sketch of the life of Cyrus Hall McCormick, father of the donor and inventor of the reaper. We take this occasion to publicly thank the giver for his valuable and interesting gift.

DEATH OF PROF. A. N. PRENTISS, '61.

We are indebted to Prof. A. G. Gulley, '68, of Storrs Agricultural College, Storrs, Conn., for the following item regarding Prof. Prentiss, who died at Ithaca, N. Y., August 14. Prof. Gulley was at one time a student under him at M. A. C.

"No doubt you will have been informed of the death of Prof. A. N. Prentiss before receiving this. Early in July, I spent a day at Cornell and in the evening spent a half hour with him. I felt then it would be my last visit with him, but did not think the end was so near. Although Prof. Prentiss closed his labors at M. A. C., over 25 years since, his interest in the old institution was as great as ever. He was particularly anxious to learn about those with whom he was connected there, both officers and students; and spoke especially about the Record and the pleasure he derived from reading it.

"Prof. Prentiss was born May 22, 1836, at Cazenovia, N. Y. He graduated in 1861 from the Michigan Agricultural College, and in 1865 was made full professor of botany in that institution. On the opening of Cornell University, in 1868 he was called to the chair of botany, horticulture, and arboriculture, which he had held ever since.

"Prof. Prentiss conducted the Cornell expedition to Brazil in 1870. In 1872 he studied in the Royal Botanic Gardens at Kew in London, and the Jardine des Plantes at Paris. He was a well-known writer in his branch of science, and in 1872 his essay on the mode of the natural distribution of plants over the surface of the earth took the Walker prize offered by the Boston Society of Natural History, and was published in pamphlet form. Prof. Prentiss was well-known throughout the scientific world as one of its leading botanists, and his death is a great loss to the university, as well as to the scientific world."

INSTITUTE BULLETIN NO. 2.

A report with the above title, containing 365 pages, has just been issued from the office of the Secretary of the State Board of Agriculture. It contains an account of the farmers' institutes held in the state during the winter of 1895-6, compiled by the Superintendent of Institutes, Kenyon L. Butterfield. The report opens with a history of the farmers' institutes of Michigan written by Dr. R. C. Kedzie. These institutes began just 20 years ago as a result of a desire on the part of the faculty of the State Agricultural College to bring its work into closer touch with the farmers of the state. Since then the system has been adopted in most of the other states of the Union and in several foreign countries. The volume before us shows that institutes were held last winter in 68 counties of the state and that about forty lecturers were engaged in the work besides local speakers at each place. The "Michigan idea" of farmers' institutes is that those living in the place where an institute is held shall do at least half the talking by presenting papers and discussing topics presented by others. The discussions are regarded as the most valuable feature of the meetings and the prepared papers and talks are therefore nearly always short and intended mainly to open the subject for general discussion. Two new features were introduced into the series of institutes held during the past winter, one the "long institute" devoted to a single topic—in this case held at South Haven and devoted to fruit, the other the "round up" held at Grand Rapids, attended by delegates from institute societies throughout the state, and at which most of the regular institute workers were present and gave their best topic. The published volume consists mainly of abstracts of the papers presented at this meeting, with a stenographic report of the discussions. At this "round up" institute there were held, besides the general sessions, sections devoted to mechanics and to woman's work, both of which were highly successful.

As an indication of the appreciation of the institute work by the people of the state I cannot do better than quote the following from the Detroit Free Press of Feb. 11, 1896:

"In acknowledging the kindly recognition given 'The Free Press' by the farmers of Michigan, we avail ourselves of the opportunity to again express approval of the work they are accomplishing through the Institutes which have been so fruitful of good

results during the current winter. To perfect organization, to arouse interest, to enlist workers and to make operative the best system for conducting these Institutes has been a labor of time and patience. But that these efforts have been crowned with success requires no other evidence than is afforded by the sixty-eight Institutes held during the season, and the grand final announced in a four-days' session at Grand Rapids. The money thus invested by the State will be returned many fold through the increased production and permanent advancement in the value of farm property. It is an appropriation in the interests of education that cannot but net a handsome return.

Those who have read the reports of these gatherings throughout the State, as given through the columns of this paper, cannot but realize them worthy of the approval we have given. They are not devoted to academic discussions or the debate of questionable theories, but they deal with practical problems that bear directly upon the success of the farmer in all departments of his calling. There is an interchange not only of ideas but of actual experiences, and the man who learns something regarding one subject becomes the teacher in dealing with another. The most valuable knowledge thus elicited becomes the property of all and the inevitable result is the general improvement of farm methods throughout the State."

AT THE COLLEGE.

The juniors are finishing the work begun last spring.

George F. Richmond, '97, has a brother in the class of '00.

Hon. C. W. Garfield spent Friday of last week at the college.

Mr. J. A. Vye, secretary of the University of Minnesota, spent several days of last week at M. A. C.

The Feroninas held their first meeting of the year in the parlors of Abbot Hall last Friday afternoon.

Vadin Sobernnikoff is making a collection of American farm seeds to send for trial to friends in Siberia.

Hon. Edwin Phelps, a former member of the Board of Agriculture, has a daughter at M. A. C.—Miss Ella Phelps.

Upon his return from home, Instructor Pashby brought with him a brother who will take the agricultural course.

Mr. Gordon H. True has gone to Menominee to test some Holstein Friesian cows belonging to Mr. W. S. Carpenter.

The teaching in the farm department is being gradually transferred to the student labor hours and the work made instructive.

Charles D. Thompson, who has been taking post graduate work with us for a year, left for his home in Corvallis, Oregon, yesterday.

G. N. Eastman, '97m, returned last Saturday evening from Imlay City where he has been for two weeks settling up his father's estate.

A. A. Crozier visited the farm of Wm. Charles in Van Buren county one day last week to look after some experiments on muck land.

Only seniors work on the horticultural department this term. At present they are finishing the pear harvest and just beginning on apples.

Among the interesting things now to be seen on the "Curiosity Strip" is a collection of Korean millets, some of which are over seven feet high.

Rev. A. W. Mumford, of Waldron, Mich., who has been attending the M. E. conference in Lansing, visited his brother at M. A. C. last Thursday.

Mr. and Mrs. Westcott now occupy the suite of rooms on first floor of the Terrace that were formerly occupied by Prof. and Mrs. Chamberlain.

The result of growing wheats on muck this year at the college was the same as last year, Golden Chaff and white Clawson giving the best returns.

The old tie-stalls in the west side of the cow stables have been replaced by Bulwell stalls, the work being done by two juniors, Mayes and Townsend.

S. B. Young, '96, spent a few days at M. A. C. last week. He brought with him a cousin, Miss Bristol, who has entered as a student in the women's course.

Found: A fountain pen, which the owner can have by calling at the secretary's office; also a silver pencil holder, which is now in the possession of Mr. Crosby.

Mrs. F. B. Mumford and daughter Margaret have been visiting at Prof. Smith's for several days. Everybody says little Margaret is the nicest baby in—Kansas.

Miss Lucy Monroe, daughter of Hon. C. J. Monroe and sister to Geo. Monroe, '91, and Miss Hattie Chase, sister to Albert B. Chase, '93, are taking the women's course.

Another section of the sophomores are studying farm machinery, beginning with the tools used in cultivation and taking up windmills, and harvesting machinery later.

About forty varieties of wheat were sown by the station last week in small plats in field No. 6. Among them are varieties from France, Germany, Russia, Japan and Australia.

There may now be seen in field No. 9 upon the college farm a crop of clover hay being cut upon land from which a crop of wheat was harvested earlier in the season. The clover seed was sown last March.

The exhibit of the farm department at the state fair consisted entirely of wheats, over 100 varieties being shown. The exhibit attracted much attention, especially the two new varieties, Buda Pesth and Golden Chaff.

The freshmen spend their student labor hours in judging live stock. They are beginning with Short-horns, and before the close of the term will have gone over all of the principal breeds of horse, cattle, sheep and swine.

The experiment station has sold its entire crop of Golden Chaff wheat, about 350 bushels, for seed, and has been unable to fill all its orders. There appears to be an unusual demand for improved wheats in Michigan this fall.

Spring sown crimson clover has done unusually well this season, the abundant rains having kept it growing all summer. One of the finest sights on the college farm is a half acre of crimson clover now in full blossom, which was sown last April in oats.

While the Lansing city council and the street railway company are settling their difficulty the college people enjoy the delightful experience of returning to the use of the time-honored and weather beaten 'bus. No cars have been running since last Wednesday night.

The sophomores have begun the study of drainage, taking up first location and grades. The teacher in charge has been heard to say that he has never had a class in this important branch of farm work that entered upon it with more enthusiasm or more quickly grasped the important principles.

Last week we mentioned the return to college of F. W. Lewis and A. T. Cartland. We are now able to add the names of eight more who have been out for some time but have now returned to complete the course: Miss K. McCurdy, with '94; Miss Mamie Baker, with '96; A. E. Baker, J. B. McCallum, and Homer C. Skeels, with '97; H. L. Becker, with '98; and Charles Johnson and Miss Essa Singleton, with '99.

LIVE STOCK AT THE STATE FAIR.

H. W. MUMFORD.

It is perhaps safe to say that there is not an Agricultural Fair, either county, district or state, where the question of live stock being injured for breeding purposes by fitting them for exhibition is not raised. The average breeder cannot afford to ruin his best breeding animals for the sake of successfully competing with the large and wealthy breeders, so he must rest content with leaving his stock at home, or if he takes it to the Fair he must be willing to be subject to more or less humiliation and embarrassment from those individuals who do not understand the circumstances involved.

The question always arises as to the advisability of the advocates of a separate "breeding condition. If this were done objections to this plan would develop which are now not generally appreciated by the advocates of a separate "breeding condition class." It is well known that breeders' ideas in regard to the proper flesh or condition an animal should be in for breeding purposes varies greatly and if these different breeders should happen to meet with their stock at a Fair, the man who believed in having stock in good flesh for breeding purposes would doubtless carry away the premiums. It appears to the writer that there is no satisfactory rule only to allow the exhibitors the privilege of making their stock as neat and attractive as possible, the custom which now generally prevails throughout the United States. The sooner the general public become reconciled to this fact the sooner will the true position of the Fair as an educator become recognized.

We expect to see, not ordinary stock at the Fair, but stock of much better quality and condition than

can be found on the average farm or even at the average stock farm. This we believe is as it should be. If there is one thing more than another that a visit to a Fair should do for a farmer or stock-breeder it is to impress him with the thought that there are possibilities in his own stock which he has never appreciated. It should stimulate him to take better care of all stock for he has seen an illustration of what is possible.

The show of live stock at the Michigan State Fair was a creditable one. There we would expect a large per cent of light harness horses as compared with the draft and coach classes, a fact which does not always receive the approbation of the farmer.

It was indeed gratifying to see the beef cattle on exhibition. Notwithstanding the many discouragements which have come to the breeders of beef cattle during the past few years they were out with good rings of Short-Horns, Aberdeen Angus, Herefords, and Galloways. The general purpose Red Polled was there in greater numbers than common. Much might be said concerning the dairy stock at the Fair but space does not permit. Not a large number of Holsteins were shown but they were of good quality. Several good herds of Jerseys would indicate that the Jersey is still holding her enviable place in the hearts of dairymen.

When we come to the sheep we need hardly say that the Michigan, Delaine, and Rambouillet Merinos were there in considerable numbers. The quality was about the same as can be seen at every Michigan State Fair, and that should be enough to satisfy the curious. The average quality of the mutton sheep was rather superior to former exhibits. Several Royal winners were shown in different classes and it could not be expected that home bred sheep could compete with them. All classes of Long Wools were shown,—Lincoln, Leicester and Cotswold, and among the Downs, Shropshire, Southdown, Oxford and Hampshire. Here again one breed was present in greatest numbers, the Shropshire. Probably a better exhibit of Shropshire sheep has never been seen at a Michigan Fair.

The swine classes were generally filled. Berkshires, Poland China, Essex, Yorkshire, Victoria, Duroc Jersey and Chester White were all exhibited by Michigan breeders principally. It should be said, however, that Michigan admirers of good stock are greatly indebted to breeders from other states for exhibiting their stock at our Fair, nor should we individually feel under obligations to the non-resident breeders for they have left us poorer as well as wiser.

Farm Department.

FRUIT AT THE STATE FAIR.

PROF. L. R. TAFT.

The exhibit in the fruit and floral hall was admitted by all to be the finest in the history of the society. Not only did it occupy nearly double the space required in previous years but the fruit was large in size, unusually high colored and free from scab and other blemishes. Until this year the fruit department at the West Michigan fair grounds has been assigned space in the second story of the main building, where it was so close and hot that the fruit did not keep, and where the arrangement at best was very inconvenient. This year a portion was set aside from the horse department, and the arrangement proved very satisfactory both to exhibitors and visitors.

A large part of the space was occupied by the so-called railroad exhibit, which consisted of nine large collections of fruit entered to compete for liberal special premiums offered by the Chicago & West Michigan and the Grand Rapids & Indiana railroads, for the largest and best collections of fruit grown in the counties through which they pass. Kent county was represented by six collections and took the first premiums in each class, two were from Oceana county and one from Grand Traverse.

Among the other large exhibitors, either for premiums for the best plate of fruit or for the best collections, were W. F. Bird of Ann Arbor, C. P. Chidester of Battle Creek, F. H. Parker of Eaton Rapids, Messrs. Farnsworth and Counter of Ohio and W. S. and Benton Gebhart of Hart.

A very large portion of the premiums for the best plates and the best collections of the various kinds of fruit were taken by Messrs. Farnsworth and Counter. Mr. Farnsworth is the secretary of the Ohio State Horticultural Society and is a very successful fruitgrower. Not only did they have fine fruit but much of their success was due to the fact that they were very careful in selecting and arranging their specimens. Not only were their fruits of large size

but they were even in size, regular in form, free from worms and scab and with their stems unbroken. The plates were arranged in straight rows with the fruit piled in neat pyramids upon them. Most of the fruit was marked with small cards with the names of the varieties printed upon them. These were supported two or three inches above the top fruits by a wire holder. Had other exhibitors taken equal care in selecting and arranging their fruit the results would have been different in many cases.

The Horticultural department of the College occupied a space fifty by five feet in this building, with an exhibit of fruit from the College orchards and from the South Haven substation. About 300 plates were shown, including about sixty each of peaches and grapes, forty of pears, twenty of plums, and most of the remainder apples, including nearly thirty varieties of crabs. The collection contained many new sorts that are now being introduced and afforded the fruitgrowers in attendance at the fair an opportunity of inspecting them and judging of their merits. The exhibit was in charge of Mr. Dean who also assisted the judges in this department.

The show of flowers and plants was quite large and contained many fine specimens. It was mainly by the florists of Grand Rapids.

In one corner of the building was a very large exhibit of honey, bees, and apparatus for handling the colonies.

Horticultural Department.

THE LEWIS INSTITUTE.

The following from the *Inter Ocean* will be of interest, as it refers to the institution to which Prof. P. M. Chamberlain was recently called.

"The West Side will be more attractive than ever to heads of families after Thursday next. On the evening of that day the 100th anniversary of the delivery of Washington's farewell address will be celebrated fitly by the dedication of the Lewis Institute. This magnificent place of education is the outcome of a bequest of \$550,000 by the late Allen G. Lewis, who died in 1877. Eighteen years of careful management by business-like trustees increased the value of the gift to \$1,600,000, and two years ago the foundation of the majestic building that extends on Madison street from Winchester avenue to Robey street was laid, and on Thursday it will be dedicated to art, science, and literature.

"The Institute will be a technical school but its managers recognize the great truth of the intimate connection between the industrial arts and what in the curricula of older colleges are called 'the humanities.' Students will be encouraged, though not compelled to gain at least the rudiments of Latin and Greek, while a thorough grounding in English will be insisted upon as preliminary to a regular course.

"Physics will include practical electricity, wood and iron working, applied chemistry, and metallurgy. It goes without the saying that the higher mathematics will be in honor.

"The Lewis Institute is in effect a modernized university, of which the people of the West Side well may be proud."

KEEP A SCRAP BOOK.

There are many good things occasionally in the daily papers, editorials, locals, literary matter, etc., which could be preserved in the scrap book.

And here and there, in a magazine, is a story or some article or contribution of value because of its research in and knowledge of the arts and sciences, while the rest of the periodical is of comparatively little use. A scrap book of such matters would be found exceedingly interesting, if for nothing else.

The writer has seen and perused scrap books which were gems in their way. The collators displayed care, taste and judgment in the selection of the articles for preservation, and it was really a treat to look them over, and here and there peruse the entire article.

Of course, it depends altogether on the collator whether he or she has the requisite tact and intelligence for classifying and arranging articles in such a medium. It may well be called an education in itself, and the owners of such books are generally people of far more than ordinary intelligence.

Events of importance, matters of great moment, interesting local incidents, selections of genuine poetry, and many other things, incident to such a collection or compilation, to make up a work which at times proves to be of value not only for reference, but as a reminder of scenes, incidents, and occasions, which but faintly linger in memory.

Let the old scrap book once more have its place in every family. Teach the children its advantages and uses, and have them assist in its preparation.

The result will be a happy, well-informed, intelligent, household, one which your friends will delight to visit often, and with you once in a while indulge in a reminiscence evening, which will be made all the more enjoyable when the scrap book is brought forth and its contents examined.—Harrisburg Independent.

A NEW MILLET DISEASE.

PROF. C. F. WHEELER.

Prof. A. A. Crozier of the farm department lately brought to the Botanical Laboratory some stalks of Hungarian Grass attacked by some unknown fungus disease.

A careful examination has led to the discovery of a parasitic fungus new to the College fields.

The name of the fungus which causes the disease is *Sclerosperma graminicola*—having spores with a hard covering which live in grass leaves.

These spores are formed in the grass leaves, which are destroyed except the veins; these are left a mass of dried threads presenting such a peculiar appearance that when once seen the disease can be readily recognized.

Another peculiar appearance is the number of dwarfed, misshapened axillary clusters of short branches which are seen on the diseased stalks.

No account of this trouble has been found in any American work on plant diseases.

It is reasonable to suppose that the abundant winter spores may carry the disease over to infect the crop next year. However, our knowledge of this pest is so limited that predictions as to its future behavior are useless.

It has been found in both patches of millet on the College farm in widely separated fields.

Botanical Department.

CIVIL SERVICE EXAMINATIONS.

The following letter comes rather late but may not be too late to be of interest to some of our graduates, as no definite date for the examinations is mentioned.

DEPARTMENT OF THE INTERIOR,
OFFICE OF SUPERINTENDENT OF INDIAN SCHOOLS,
WASHINGTON, D. C., Sept. 3d, 1896.

Dear Sir:—At last I have succeeded in establishing the position of "Teacher of Industries," for which I want graduates of manual training and agricultural schools—persons who have a practical knowledge of farming and the use of the carpenter's and blacksmith's tools, and who are competent to instruct small classes in ordinary manual training work, persons of good habits and plenty of common sense.

The Civil Service Commission proposes to hold an examination about the middle of September in places convenient to applicants. I write you in the hope that you will bring this fact to the notice of a number of graduates of your institution, and request them to make application at once. The salaries vary from \$720 to \$900 per annum. Quarters, light, and fuel are furnished employees, and their board in school mess rarely reaches \$2.50 per week.

Thanking you in advance for whatever assistance you may give me, I am, sincerely yours,

W. N. HALLMAN, Supt. Indian Schools.

BACTERIOLOGICAL WORK.

PROF. C. D. SMITH.

The bacteriological work of the station was enlarged by the Board in order primarily that we might be prepared to take advantage of the opportunity afforded by the discovery of tuberculosis in the College herd, to study various phases of this dread disease. The work along those lines necessarily proceeded slowly. The disease develops slowly in inoculated animals and the bacteriologists have therefore time to devote to other subjects while the disease is developing in the treated animals. They have their eyes open and are ready to investigate other questions as opportunity offers.

One morning one of the cows was found to have a caked bag. The bacteriologist was notified and samples of the milk were taken. A biological examination revealed the presence of a certain germ, a pure culture of which introduced into the udder of a healthy cow produced the characteristic inflammation. In three other cases of inflamed udders this germ has been found present.

A milk man in Lansing found the milk of his cows

ropy on a recent morning, the cause being entirely unknown. The cans and other milk vessels were clean and well cared for. The cow stables were healthy and the hygienic condition of the cows good. The milk house revealed on examination no apparent cause of the trouble. The abnormal condition of the milk developed so rapidly that the patrons refused longer to receive the milk. Samples were brought to the Laboratory and a bacteriological examination has begun. Inoculation of normal milk with the cream of the ropy milk results in making the normal milk ropy. From this fact and others the bacteriologist reasons that the trouble is of microbic origin.

An examination of pasteurized milk revealed the presence of a large number of living germs. These have been studied, pure cultures produced, and inoculations made in sterilized normal milk.

The work is still in progress along these various lines. In some of them valuable results are near at hand. In others the work must be continued for weeks or perhaps months before any decided indications even may be expected.—*Director of Station.*

M. A. C. AT THE STATE FAIR.

(From the Grand Rapids Press.)

One of the triumphs of the fair this year is the fruit department, and one of the crowning features of that exhibit is the display of fruit from the State Agricultural College experimental stations at Lansing and South Haven. That which makes the display of this institution especially interesting is the fact that the effort is not so much to show fine samples as to give examples of new varieties. The display of the college occupies a liberal amount of space and is arranged very attractively. Among the newer varieties are a number of seedlings of American origin, including the Peter, October, Wealthy and Gideon, varieties produced by Peter Gideon of Minnesota. The notable quality of these varieties is their extreme hardness. The same is true of a number of Russian apples especially adapted to growing in northern Michigan.

Among the novelties shown by the college is a coreless pear, chestnuts and Japanese walnuts, also some pears from the century old pear trees at Monroe, Mich.

Then there are a number of new varieties of seedling apples originated in Michigan. Among the pears may be mentioned the Dr. Reeder, Longworth, Garber and Vermont Beauty. Late plums also come in for a large amount of attention. Among the newer varieties shown are the Kingston, Black Diamond and Grand Duke. "There are plenty of early plums grown now," say the growers, but just what is needed is some more good, late varieties.

The college is also showing some fine specimens of new varieties of peaches and grapes, all of Michigan origin.

PRESIDENT ELLIOT CONCERNING THE SUPERIORITY OF WOMEN AS STUDENTS.

Radcliffe College, founded seventeen years ago and known as the Harvard Annex has now become essentially a department of the University. At the last commencement of Radcliffe, President Elliot said:

"You will soon see, as you listened to the degrees about to be conferred, that the number of degrees with distinction is large. The proportion of such degrees in Radcliffe is much larger than in Harvard College; and this phenomenon is observable in all places where men and women, or boys and girls, are brought into competition under the same teachers and with the same examination papers. It is seen in England, where, in the very highest examinations as well as in the lower, women have reaped large success. We know now that in power of acquisition, and in that mental skill and ready power of expression which are needed for the rapid production of good answers to an examination paper, girls and women on the average will excel boys and men. They have done it for years, and they will continue to do it. We observe in Harvard University that when prize competitions are open both to Radcliff and Harvard, the young women get an undue proportion of the prizes. These facts teach more than appears on the surface. Some people say that this superiority is the result of steadier and more strenuous application to study and practice. It may be due to retentive memory, patience, a higher degree of conscientiousness, and fewer distractions. But patience, devotion to duty, keen observation, accuracy, and power of clear expression go far in expression, I care not what.

"There is every reason, therefore, for the profoundest and sincerest encouragement and hopefulness about the thorough education of women."

The M. A. C. Record.

PUBLISHED WEEKLY BY THE
MICHIGAN AGRICULTURAL COLLEGE

EDITED BY THE FACULTY,

ASSISTED BY THE STUDENTS.

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For various reasons THE M. A. C. RECORD is occasionally sent to those who have not subscribed for the paper. Such persons need have no hesitation about taking the paper from the post-office, for no charge will be made for it. The only way, however, to secure the RECORD regularly is to subscribe.

THE OPENING OF THE COLLEGE YEAR.

We are greatly pleased with the way the college year has opened. From every point of view the outlook is flattering, both for the immediate school year and for the success of the entire new policy inaugurated with the entrance of the present freshman class.

The past few months have contained long and anxious days for all those who have been responsible for the various and radical changes adopted as a part of the future policy of the college. They were impressed, perhaps even overawed, with the magnitude of the public interests affected, and shrank from breaking with established custom and tradition. After the irrevocable steps were taken, after the college was declared open for women, after the vacation was transferred to the summer, after the agricultural course was radically changed so as to make the technical and practical features more prominent in the earlier years of the course, after the short winter courses were agreed upon, then even more than before, the novelty of the changes and their far-reaching effects loomed up in exaggerated proportions, and, notwithstanding the thoroughness of their convictions and their unshaken faith in the necessity for, and salutary effects of, the measures adopted, the advocates of these measures trembled for the result and anxiously scanned all portents and signs to see what judgment the patrons of the college would pronounce.

Even had the conditions for an easily interpreted popular verdict been normal this anxiety would have been inevitable and oppressive; but there existed the complication that times have grown harder and business duller as the days have gone by. Business men have suspended all operations except those immediately and absolutely essential. Nobody is assuming new obligations that can in any way be avoided. Schools that for years past have been making steady advances in attendance, opened with smaller numbers and assigned as a cause the hard times. Our hearts died within us; and we said: "Surely the judgment of the public, as pronounced in the numbers in attendance at our opening, will be such that, no matter what the real causes, those who so desire may distort it to our discomfiture and we shall have to endure the odium of all unsuccessful innovationists."

Finally, the 14th of September came. The chapel bell rang, and—the chapel was filled to overflowing. We have not for years seen such an attendance on the opening night. We felt that our fears were at an end, and that the justice of our conclusions was established.

But while our fears are relieved there are, all over our broad state, alumni and friends of the institution who are also intensely interested in the future of the school and are anxiously waiting for news. For these we publish the subjoined facts.

On the fourth day after the opening of the term thirty-two girls are enrolled in the women's course. We had made our calculations for twenty-five. They are a refined, intelligent, well trained class of young women, and will compare very favorably with any class of matriculates in any college in the state. Moreover, they know just what they are here for and they are in dead earnest about their work. We have every reason to feel greatly encouraged about the women's course at the M. A. C.

The number of male students matriculating during the first four days of this term is largely in excess of the whole number matriculated during the fall term of

1895, and if the ratio between the matriculates of the first four days of '95 and those of the first four of '96 holds throughout the term we shall enroll this term the largest freshman class of male students during many years. This we take as demonstrating two things, viz., that the change of vacation from winter to summer is meeting the wants of a larger class of people than that accommodated by the old program; and that our patrons approve of the co-education of girls and boys.

Still another fact. Last year, among the male students, the number of matriculates in the mechanical course was larger than in the agricultural course. This term, while there is a healthy growth in the mechanical course, showing that it has not lost any of its popularity, the growth in the agricultural course has been still more rapid, so that it again stands at the head of the list in number of matriculates. We regard this, again, as marking distinct approval of the changes made in the agricultural course.

It was prophesied that the losses in the upper classes through the removal of the opportunity for our boys to teach school during the winter vacation would be very large. Without waiting for later developments we find that of the class of '97 in attendance at the close of the previous year only four have failed to return. The data for the class of '98 are not at hand; possibly there has been a larger defection in that class, but in any case it is offset by the unusually small loss sustained in the class of '99.

Once again let it be mentioned that even a falling-off in attendance at the college school should not, in view of the business stringency, have been a source of surprise, and that other colleges are opening with smaller numbers. When we remember this, and then see the handsome increase in attendance we may without reproach congratulate ourselves, and hold up the figures as a striking vindication of the wisdom of our course.

HINTS TO NEW STUDENTS.

1. A word close in your ear. Guileless simplicity and unquestioning faith in all humanity are really very attractive attributes of youth—sometimes irresistibly attractive to the fun-loving sophomore. Beware! The sophomore isn't a fair sample of humanity—as yet.

2. Be sure to avail yourself to the full of all the advantages so lavishly strewn around you. Do you know that there is hardly another school in these United States where you will be allowed to have such direct and personal access to so wide a range of costly apparatus as you may have here? See to it that you lose no opportunity of this kind. Here, for instance, is the library. It is probably a larger, and certainly a better, collection of books than you have ever seen before. It is your privilege to touch, handle, read books that you may never have the good fortune to even see again. For the time being they are in every sense yours. Do you realize the value of the privilege? Make your daily schedule so that you can spend at least one hour daily in the library. Get someone to advise you about your reading. Make friends with the librarian; or, and that brings me to hint No. 3.

3. Cultivate your teachers (*they* need it). Don't leave all the friendly advances to them but make some effort yourself to form a mutual acquaintance, which will inevitably be of inestimable value to you. The Record knows them all, and can assure you that you will find them not only affable, but anxious to find ways of friendly approach to you. They will meet you more than half way. Nothing pleases a true teacher more than to have close and intimate relations with his students. He would like to know that they feel free to come to him for counsel and assistance whenever they need it.

4. Choose very deliberately and carefully the society that you join. Don't fall into a flutter of flattered complacency at the first invitation you get; but examine the situation intelligently and discriminatingly and, if necessary, wait until you get what you want. Choose congenial associates, and see to it that the influences with which you surround yourself are helpful and uplifting. None of our societies or fraternities are supposed to be mere social clubs, and if you join one for that feature alone, both it and you will be injured by the union.

5. Don't neglect the physical side of your being. Be conscientious about your daily modicum of physical exercise. Take a healthy and lively interest in the college athletics, not merely by looking on and perhaps paying your share of the expenses, but by taking part in some form of the work and cultivating a personal interest and pleasure in it. Have a definite place in outdoor games and sports.

6. Don't neglect the religious side of your being. A faculty that lies dormant for an indefinite time will become dwarfed and shriveled. And this is the faculty that you can least afford to neglect. Don't be ashamed of your religion; don't wrap it in a napkin and lay it carefully away for future use after you return home. When you come to take it out again, you will find it shriveled up to nothing. Give your moral nature a chance while you are here. Help to create and keep in vigorous action a strong moral and religious influence in our school life. Be a power for good. To do this, ally yourself with all the forces for good now active at the college. Attend the Sunday services; join some bible class, give hearty and constant support to the work of the Young Men's Christian Association; join the Association and give them your best efforts.

7. Take interest in all the social events at the college. Don't be a hermit; don't wait until you are a senior before you try to make acquaintances. It will be too late to make people know and love you then. A man finds in this world just what he looks for. If, with open, trustful heart, you go about among your fellow men seeking love and offering love in return, you will find it everywhere. The world is a mirror which reflects the smile, or the frown you show it.

8. Finally, be strong, self-poised, manly. Put away childish things. Be earnest, purposeful, persistent. Play the man. Throw yourself every time on the side of right. It will count you a hundred fold in character and reputation. "Whatsoever a man soweth, that shall he also reap."

BEAL'S HINTS FOR BEGINNERS IN BOTANY.

This year beginners in botany are using a brief work recently written by Dr. Beal, the object and plan of which are quite fully set forth in the preface from which we quote:

"No real progress can be made till the student learns to see. To learn to observe well, concentrate the attention for some time on a very small portion of the object, then in a similar manner, study other portions. Make frequent and thorough comparisons of two plants or similar parts of plants. A trained eye is valuable in any kind of business. 'Mere book knowledge of natural history is a sham and a delusion'—Huxley.

"The pupil should acquire facts and details before generalizing or attempting to draw conclusions; he should know considerable about a good many species before attempting to study any system of classification.

"The pupil should earn his facts. These should be placed within his reach, but not in his hands."—Goodale.

"The teacher of biology will keep the student in the right track, but let him find the truth himself."—Farlow.

"There is too much pouring in by the teacher and too little worked out by the pupil; this tends to make intellectual tramps and not trained investigators. The best teacher will keep constantly in view how best to prepare students to acquire information for themselves. This is training for power, and, although not so pleasant at first, is of far more value than the mere information acquired during a course of study in natural science.

"I object to telling students at every step what they are to see, or to imply as much by numerous direct questions. I think it unwise to place in the hands of beginners books containing good pictures of what is to be learned from specimens. To give him a full text and good pictures is much like placing a translation in the hands of one who is studying Greek, Latin or German. Excepting as a model now and then, I do not think it best to supply printed schedules for plant study."

The aim is to teach in such a way that the student cannot get his facts from the text book, but must depend on the specimens placed before him for examination. With this end in view the text tells the student how to go to work, how to prepare specimens, what comparisons to make, but does not give a single cut nor drawing, does not describe a single plant. In the back part of the work is a glossary containing the words that a student in botany should add to his vocabulary after he has discovered the thing for which the word stands. A teacher who is not a botanist could not use this sort of text book, and a student could make but little progress with it without the aid of a botanist-teacher; but in the hands of such a teacher it will be very valuable in promoting that most valuable of all systems of education—personal research.

THE "CURIOSITY STRIP."

A. R. ROGERS AND J. W. RIGTERINK.

(Continued.)

CHICORY. (*Cichorium ltybus.*) This is a perennial herb with a thick fleshy root somewhat like a parsnip or carrot. The seed was sown last year and grew finely, the roots reaching full size by autumn when they were harvested. This year the plants came up thickly from pieces of roots left in the soil and it was with much difficulty that they were eradicated. A few plants, transplanted when in full leaf May 30, grew readily. Chicory has a pretty blue blossom and is sometimes grown for ornament but has escaped in some localities and become a pernicious weed. Its chief use is for the adulteration of coffee. The roots are cut in pieces, dried in a kiln and ground for this purpose. The plant is also sometimes used in England for forage.

COTTON. (*Gossypium herbaceum.*) The seeds were planted in the forcing house April 30. Not many of them grew owing to irregularity in the application of water. When it appeared that plants from this source were likely to be a failure another lot of seeds was taken and soaked in water at 110 Fahr. for 24 hours and then planted in hills out of doors. These seeds came up nicely, and I would recommend that this method be adopted in the future, the seeds being planted as soon as danger from frost is over. The plants grew about a foot and a half high, and bore blossoms and immature pods when killed by frost in autumn.

YELLOW LEVIATHAN BEETS. Two rows, three feet apart, each four rods long, were sown April 30. They came up readily and grew well all summer. The leaves are a light green and longer than those of the long red mangel. The roots were pulled in the fall and weighed 472 pounds.

LONG RED MANGELS. On May 1 two rows were sown two feet apart and four rods long. The plants grew well. The leaves are of a dark red color. The roots grew to a great length, a considerable portion of them being above the surface of the ground. They gave a large yield, the two rows producing 493 pounds.

DANISH NEW IMPROVED SUGAR BEET. Seeds were sown June 10. It was a long time before the plants came up and when they did, they were slow growers. After the first of August they did well. The roots are of a light color and have a smooth surface. Two rows yielded 173 pounds.

DANISH IMPROVED SUGAR BEET. The seeds were planted June 10 and came up July 1. On July 22 they were about four inches high and doing well. The roots of this variety are not as neat as those of the "Danish New Improved." The two rows yielded 107 pounds.

OXHEART CARROT. Two rows, three feet apart, and four rods long, were sown May 1. The plants were thinned when about three inches high. The roots are of a bright red color and of medium length. This variety is one of the best for table use and yields well. The weight of the roots when dug, Oct. 23, was 160 pounds.

LONG ORANGE CARROT. The same amount of land was on May 23 sown to this variety as to the Oxheart. The tops of the two varieties are much alike but the roots of the Orange are longer and of less diameter than those of the Oxheart and have a stronger taste. They were dug Oct. 23, and weighed 226 pounds.

MADDER. (*Rubia tinctoria.*) All previous attempts to raise this plant had failed. On April 28, two rows were carefully sown and after a long time the plants made their appearance. The soil was very dry but the plants thrived. Madder is a perennial. The root when dry and ground into powder furnishes a well known dye for coloring red. It is said that if the plant is cut the second year when in flower it makes very good fodder.

FLAX. (*Linum usitatissimum.*) Dutch, Russian and Belgian flax were sown side by side in drills ten inches apart May 12. The Belgian blossomed June 10, the Dutch June 20 and the Russian still later. Most of the flowers were blue but an occasional one was white. The Dutch variety was the most uniform in growth. Some of the stalks of the Belgian variety were as much as six inches taller than others. The Russian is shorter and matures later than either of the other varieties. The plants were not cut when ripe and when the August rains came on they put forth a second growth of leaves and blossoms. Flax is but little grown in Michigan, but the climate of some parts of the state seems adapted to the production of a good quality of fibre.

JAPANESE RAPE. Seeds from three different packages, marked respectively Hokkai, Cifu and Fukushima, were sown in rows ten inches apart on June 18. They looked so much alike when growing that no difference was observed through the season. This rape is very different in appearance from the rape ordinarily grown in this country. The leaves of the latter look like those of the rutabaga, while those of the Japanese rape resembles the turnip. The ordinary rape was nearly ruined by plant lice, while only a few were seen on Japanese rape. Its merit as a fodder plant was not tested.

JAPANESE BUCKWHEAT. Seeds were sown in drills ten inches apart June 18. On June 21 a good rain fell, giving the plants a nice start. It began to blossom July 22, being then about 12 inches high. The soil up to that time had been occasionally stirred with a hand cultivator. The plants made a rank growth and yielded seven pounds of well matured seed from three rows.

GIANT SPURRY. (*Spargula maxima.*) Seeds were obtained under this name from three sources. One of the packages proved to be common spurry, which has seeds only about half as large as the Giant spurry. Both varieties were sown side by side. The common spurry came on faster than the other and made a finer, thicker and more even growth, which when about seven inches high was in full blossom, while no flowers had yet appeared on the other variety. The Giant Spurry grew more slowly and made a coarser, taller plant, a foot or more high, which matured later and produced less seed than the common kind.

[To be continued.]

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FARMERS' INSTITUTES.

This season's work at Farmers' Institutes begins tomorrow at Marquette, where a two-days' institute will be held. The other upper peninsula institutes will be held at the following places and dates: Iron River, Sept. 28-29; Norway, Sept. 30, Oct. 1; Stephenson, Oct. 1-2. Ontonagon had been included in the trip, but the terrible fire there made it out of the question to hold an institute there. The "crew" consists of Hon. Wm. Ball, Prof. C. F. Wheeler, Mrs. Mary A. Mayo, and Mr. J. H. Brown.

The details of the lower peninsula meetings are not yet arranged, but the probabilities are that the season will include the first three weeks of December, and the months of January and February.

NEWS FROM GRADUATES AND STUDENTS.

R. B. Pickett, '93, called at the college on the 12th inst.

W. A. Anson, with 95m, spent Sunday at M. A. C.

D. A. Garfield, '89, is cashier of the Albion, Mich., State bank.

S. W. Tracy, '96, is working for Vaughan & Co. seedsmen in Chicago.

Joe Beauvais, with '96, will run a boat livery at Harbor Springs next season.

J. T. Berry, '96, goes to Cass City this week to begin teaching in the Cass City high school.

C. B. Charles, '79, is one of the lecturers engaged to take part in farmers' institutes next winter.

W. A. Maxfield, '93, Coopersville, returns next Monday to Rush Medical College for his last year.

E. D. A. True, '78, expects to re-enter college soon for special work in the mechanical department.

Albert Finsterwald, with '90, a manufacturer of caps in Detroit, called at M. A. C. one day last week.

A. L. Pond, with '97m, is spending a ten-days' vacation in Michigan. He called at the college Sunday.

W. W. Tracy, '93, has been appointed to a position in the department of agriculture, Washington, D. C.

G. J. Rhodes, with '97m, now a theological student at Albion College, called on his M. A. C. friends last Saturday evening.

The engagement of James R. Petley, with '94, of Milwaukee, Wis., and Miss Winnifred Sipley, of Lansing, has been announced.

Peter V. Ross, '95, has been elected principal of the Mullan, Idaho, schools. He pays \$7.50 a week for board. All free silver there.

H. B. Fuller, '92, spent a part of last week at home and at M. A. C. He was obliged to close his school at Lewiston on account of diphtheria.

Cards are out announcing the marriage of D. W. Roberts, with '94, to Miss Mildred Glines, which will occur at the residence of the bride's parents in Meridian Sept. 30.

B. W. Peet, '92, for three years science teacher in the West Side schools, Grand Rapids, has recently been promoted to a similar position on the east side to take the place of Mr. Hall, resigned.

Prof. D. B. Waldo, of Albion College, who was a student here with the class of '86, visited M. A. C. last Wednesday, and in the evening spoke at the McKinley and Hobart club rooms in Lansing, "A Century of Coinage Legislation."

In the state republican ticket there are nine names, among them Jason E. Hammond of Hillsdale, M. A. C., '86; on the Ingham county ticket there are eleven names, including Judge A. E. Cowles with '61; W. Asa Rowe, '73; C. B. Collingwood, '85.

L. J. Briggs, '93, has recently had his appointment to a position in Soil Physics, department of agriculture, Washington, D. C., made permanent. He has a private laboratory with steam, water, blast, vacuum and gas, which is next door to that of Mr. Hicks.

Mrs. Eva D. (Cryell) McBain, '79, made the college a short visit on Tuesday last accompanied by Mr. McBain, who was a delegate to the state convention of the anti-saloon league. As she was the first young woman who graduated at M. A. C. she very naturally takes a lively interest in the newly established course for women. She spoke in unbounded praise of The Record, "as just the thing."

O. P. Gulley, '79, and wife, of Dearborn, Mich., visited the College August 18. Mr. Gulley is a dealer in hardware, furniture, and farm implements at Dearborn, and was in Lansing on the State equalization board.

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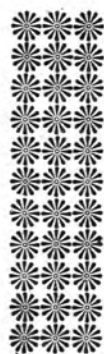
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See Announcements Page 4 for Work of this Term.

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