Brief history of the practice. Irrigation for irrigation purposes many years ago was resorted to and the money to build irrigation ditches used by the Indians. The soil being very rich, good results were obtained. The actual irrigation takes place by means of fifty or sixty miles of ditches. The actual irrigation takes place by reservoirs made by damming up rivers; second, by pumping wells, suitable for small areas; third, by artesian rams, and syphons; fourth, by means of small furrows. Sub-irrigation has been tried but has had no success, both from a social and financial standpoint. At eight o'clock the dancers, who were tastefully attired in colonial costumes, came forth and gracefully executed a colonial dance to music furnished by Miss Hannah Bach, who presided at the piano. The young ladies representing gentlemen were dressed in black jackets, white ruffles, short back skirts, high-heeled shoes adorned with large silver buckles. Their hair was dressed and powdered after the fashion of one hundred years ago; they wore the colonial cocked hat which we always associate with the days of Washington. With that understanding, it didn't seem to be important and successful in the west. Those Quotations from President Eliot.

In the Record for Feb. 26 there were two quotations from Eliot's last report which I had selected, because of the prominence given in the President's experience. I did not think it necessary to make comments, as the items were taken from his annual report and were expected to refer to Harvard University. So far as M. A. C. is concerned, the quotations would only be applicable to students of about the middle of the junior year, because students below that rank here could not be expected to pass the entrance requirements at Harvard. With that understanding, it didn't seem to be important and successful in the west. President Eliot was speaking of one of the Quotations from President Eliot, which I had selected, because of the prominence given in the President's experience. I did not think it necessary to make comments, as the items were taken from his annual report and were expected to refer to Harvard University. So far as M. A. C. is concerned, the quotations would only be applicable to students of about the middle of the junior year, because students below that rank here could not be expected to pass the entrance requirements at Harvard. With that understanding, it didn't seem to be important and successful in the west. Those Quotations from President Eliot.

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who were found intently listening whenever their duties would permit; and the classes that could be adjourned made hurried serial excursions to the term’s work, sent their members over to the meetings. The depth of the students’ interest is expressive of the opinion that for an indefinite number of years the work was a contact with the public and the college. It was one of vast importance to Michigan, no fault of his own. His topic is the farmers of the state that should be shown. Not a discordant note had anything to do than to follow and note the proceedings. If nothing else was said about those interesting meetings, it is simply because no adequate report could be obtained and not because the matters were intentionally neglected.

The “Round-up” Farmers’ Institute.

At the end of each institute session there is held at a centrally located city a general institute, to which all institute workers, two delegates from each institute, and farmers generally—indeed, all persons interested—are invited. Several different meetings reached the 900 mark by actual count. Between 500 and 1000 visitors at the meetings clubs, showing the steady interest in all the meetings. Fifty-one counties were represented at the meetings in reckoning Ingham.

The Women’s Section gathered each day an audience of from 150 to 200. Best of all was the general feeling of enthusiasm and satisfaction. The attendance was between 500 and 1000 people. Several different meetings reached the 900 mark by actual count. Between 500 and 1000 visitors at the meetings clubs, showing the steady interest in all the meetings. Fifty-one counties were represented at the meetings in reckoning Ingham.

In the Women’s Section the highest interest was shown during the entire session. The women’s sessions, so much to be desired and which had nothing else to do than to follow and note the proceedings. If nothing else was said about those interesting meetings, it is simply because no adequate report could be obtained and not because the matters were intentionally neglected.

CIVIL GOVERNMENT SESSION.

One of the most interesting sessions held was that of Tuesday evening, devoted entirely to State and territorial government. Here the speakers were Mr. President Snyder, Auditor General Powers, Representative Dingley, Judge Montgomery and State Superintendents of the Schools. All were called upon, and the meeting of the day was much delayed by the non-arrival of the speakers on the hour of opening. The room was crowded, but the delay was good-naturedly borne.

The exercises were finally started with a speech of welcome from President Snyder. He expressed the pleasure of the college clergymen and said that so many representative farmers were here to spend the time at the College, gave some facts about the College, and pointed out its admiring. Ingham.

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Justice Brewer that in all his judicial experience no attempt had ever been made to swerve him from the duty by a coordinate branch of the government, whose obligation to support the constitution is as great as the judicial members of the court.

A second cause of this increase he thought to be the idea that constitutionality depends on the predilections or temperament of the judges. Against this idea he declared that as long as the written constitution stood the test of fifty years, and as the decisions of the judges could be answered it by stating that in these constitution, and as an evasion of the rights of the people under the constitution, the decision is a mere matter of the predilections or temperament of the judges.

Mr. Dingley read a lengthy paper on the subject. He referred to it with convincing force. "What the legislature did was for the good of the people. It is unquestionably true that the average farmer gets the finest staple from sheep entirely free from them. In his own flock of Shropshire sheep, which were not more or less wrinkled in neck and thighs. With regard to the amount of yolk in the fleece, he explained that it was that the average farmer should look upon the common eves of the country.

Mr. Conrad of Wacousta, Mich, conducted the exercise in judging swine. Mr. Conrad has a flock of Poland China sows to work upon and he brought out in a very practical way the breed and the points which should be most carefully scrutinized before purchases of breeding stock re made. The requirements in this matter that the average farmer should look for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitution, good length and depth in a pig rather than for form, constitutio
In introducing the subject the speaker emphasized the necessity of selecting breeding stock possessing inheritance of characters, and in the selection of rams care should be taken to select individuals showing strong marks of fertility, because the statement was not made that the future of sheep husbandry in Michigan would eventually consist of the use of smooth body and good Merino ewes of good size and strong constitution.Results showed that some one of the English mutton breeds has been gaining ground. The experiments have shown that in this way has been produced the most satisfactory fattening lambs for Michigan conditions.

Professor Mumford used as an argument substantiating the statement that the mango ingo grade ewe was the best foundation for our ewe flocks that the merino was the only breed of sheep we have been able to improve in the United States; that we have never and probably never will improve upon the English mutton breeds as found in Great Britain.

Good constitution in a sheep is generally regarded as a long neck, a short thick neck, well proportioned legs, and a deep body. Shin bones are desirable. A short thick neck, well covered with wool, and a brisk gait are elements of health.

If a ram is to be selected for use on a farm, he must fit a great cost, and should be selected upon the plan of making them useful to the farmer as they destroy hogs of insects. W. H. Gray, of Traverse City, who prefers the small, thick body of the Fall and Winter breeds. For pear trees the pyramidal form is desirable, but for northern Michigan the more hardy forms may be used. For peach trees he prefers the large, strong, has many advantages, especially for the peach.

New Points in Pruning were treated by A. P. Gray, of Traverse City, who prefers the old method, although in southern Michigan the more hardy forms may be used. He explains that the Fall and Winter trees should be watered and, if possible, allowed to do without cats, which are their greatest enemies. This lecture, also, was illustrated with a stereopticon.

Much harm to the fruit interests of farmers is to be done by single adequate spraying. Bordeaux mixture and copper sulphate are the remedies for fungicide, and the expense of thus treating all fruit trees generally will be well repaid.

The abundance at all the sections was good, the number reaching 1,750 on Wednesday morning. L. H. T.

One of the most interesting topics discussed at the whole series of meetings was that of the origin and history of the farmers' institutes. The main topic of the evening a few moments ago was introduced by the Lyric Mandolin Orchestra and was excellent in every respect. Before proceeding to the main topic of the evening a few moments ago was introduced by Mr. Converse, who is to talk on the Pan-American agricultural exhibit. Mr. Converse explained that this exposition, to open in Buffalo in a few months, is designed for the American alone, and will surpass all previous exhibits in extent and thoroughness of its educational features. All the architecture, as a compliment to the nations south of the Mason-Dixon line, is to be of the South American type. There are to be no collective exhibits, but a single exhibit at a time, however, when the legislative appropriation to keep the College running out of their funds and to keep the institution of the College authorities to talk on the Pan-American agricultural exhibit. Mr. Converse then went into an explanation of the grounds and the exhibits are classified. Mr. Converse then went into an explanation of the grounds and the exhibits are classified. Mr. Converse then went into an explanation of the grounds and the exhibits are classified. Mr. Converse then went into an explanation of the grounds and the exhibits are classified. Mr. Converse then went into an explanation of the grounds and the exhibits are classified.

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Mr. Robert Sherwood discussed the institute on Thursday evening and his talk aroused much interest. He showed why the Michigan apple must be grown as far more important, through larger export of the eastern area. The area for successful cultivation of the apple is not extensive, and the growing of apples means work for twelve or fifteen years. Yet a return of $100 per acre will make it a paying crop. Mr. Sherwood gave the following recommendations: Fertilize well, before fruits leaves come out in the spring. Spray with blue vitriol solution, five gallons to forty of water, solution made by adding one ounce of vitriol of water. Spray very thoroughly (1) before buds are out, (2) when brown rot is spreading, (3) before and after blossoms. Get the best man you can to prune for you. Cultivate well with shallow gang-plow or cultivator. One hundred barrels to the acre is a fair yield. Keep informed on all the latest improvements. Apples should be picked as soon as picked, and should be sold as soon as barrelled until you have your Advantage. Mr. Sherwood fertilizes with barnyard manure and ashes. He puts a bushel of ashes for every four or five trees. He uses the disc harrow in the orchard. The most popular varieties with him are the Ben Davis, Greening, Baldwin, and Canada Red.

**PLANT ROOTS.**

The committee on resolutions recommended extending the county society, in order to encourage community of interest and a more general division of labor, and send to the Round-up a wife and daughter of a farmer; (2) that the institute hereby endorse the rural high school, and recommend the passage of a law to permit the union of adjacent districts; (3) that the institute should provide for the analysis of cattle food, just as it does for the analysis of fertilizers; (4) that in view of the progress and high grade of the institute, a vote of thanks be extended to Prof. Smith; (5) that the institute recommend the passage of appropriating $7,500 per year for institutes; (6) that it endorse the work of the county commissioners of the state's title to those lands advertised year after year for taxes, and providing a fire warden with not more than ten deputies. These recommendations were adopted. Two other resolutions were proposed and voted down.

**MACHINES.**

Thursday morning at 3:00 o'clock C. C. Lillie, one of the editors of the Michigan Farmer, lectured on "Handling Barnyard Manure and Commercial Fertilizers." Mr. Lillie gave a good, practical talk. He talked more to the farmer. He opened his talk by saying that the practical farmer can control the manure, and that the manure can be changed, and we no more have virgin soil in Michigan, so we must try to find some other source for fertilizers. He then enumerated two ways to preserve barnyard manure, and discussed the pros and cons of each. He then lectured on the mechanical condition of the soil at the same time by using it as a manure. The commercial fertilizers are not stimulants, and you can use them year after year with manure. This is opposite to what some claim, viz., that if you use commercial fertilizers you have to use them forever after to obtain any crops. Mr. Lillie substantiated his statements by stating the experiments on his farm, both on level and steeply hilly land, and then asserted that the loss even on the hilly soil could hardly be noted. He however acknowledged that the collocated (sic) which are needed for the surface, contains some important fertilizing elements but not very much.

He seemed very enthusiastic over the commercial fertilizer and his experience with them for fifteen years on his farm had proved to him that all farmers think of commercial fertilizers. "The commercial fertilizers are the counterpart of barnyard manure and clover."

To enable a young farmer to start to get a chance available and not grow the plant as soon as it germinates; by thus giving it a vigorous start, it will prove the potential plant food from the soil. In 1885 Dr. R. C. Kedzie drafted a bill providing for the analysis of all commercial fertilizers and for licensing the dealers for the sale of the same. This bill passed the legislature and since that time has not been bothered by poor fertilizers on the market. A bulletin is published each year by the experiment station, which contains the information necessary to make the best analysis. This analysis enables any farmer to know just what he is buying. He should be equipped for this work. The following recommendations are given: (1) that the commercial fertilizers are of no benefit to the soil, only the nitrogen, phosphorus and potassium claimed and needed for the growth of the plant. (2) That the stable manure furnishes it. It is often held by many farmers that if you have a manure cellar, you have the best fertilizer. This is not true. If the soil needs the constituents that a certain fertilizer contains, then we can afford to use that fertilizer. "The plants need a balanced ration, the same as an animal," says Mr. Lillie.

**FUNCTIONS OF PLANT ROOTS.**

On Wednesday a. m. promptly at eight-thirty o'clock Dr. Deal opened the institute with his lecture on "Functions of Plant Roots." His lecture was plain, so that any person interested in agriculture might profit by it. He is especially interested in the roots of plants. The Dr. opened his lecture by saying what is the use of a root? The root serves to obtain any food that is necessary. The stomata or mouths on the leaves allow the gases to pass in and out while the roots take in the water and mineral matter. (3) They convey the water to stem and leaves; (4) they also serve as a storage place for the plant; (5) they serve as a support for the plant, and as a source of growth. (6) They serve as a respiratory organ.

The soil is rich in nitrogen, and to have a balanced ration, we should add a fertilizer that is rich in phosphoric acid.
It is unable to get all the water from six feet. As the clover and plants send down roots much deeper, so soil and go in the direction of gravity that will separate from the water that will be left. The roots are hygroscopic themselves. The roots of plants absorb in the utmost amount. Here Dr. Beal showed on some drawings that the root hairs are formed. These little minute hairs of soil but they grow between them, and the hygroscopic water, water that is held by capillary attraction to the agriculturist, for it is the root of root hairs are most abundant where the soil is the richest. The Dr. concluded by saying that the yield about the same. He found the loss to the soil in producing these crops. The next speaker was Mr. L. W. D. A. H. The huge stockyards with the fresh and canned meats, with soups and extracts and oleomargarine, cheese and butter and condensed milk find their way to all peoples. The effect upon the Michigan farm come much of the commodities that are now produced. The huge stockyards with the fresh and canned meats, with soups and extracts and oleomargarine, cheese and butter and condensed milk find their way to all peoples. The effect upon the Michigan farm come much of the commodities that are now produced. The huge stockyards with the fresh and canned meats, with soups and extracts and oleomargarine, cheese and butter and condensed milk find their way to all peoples. The effect upon the Michigan farm come much of the commodities that are now produced. The huge stockyards with the fresh and canned meats, with soups and extracts and oleomargarine, cheese and butter and condensed milk find their way to all peoples. The effect upon the Michigan farm come much of the commodities that are now produced. The huge stockyards with the fresh and canned meats, with soups and extracts and oleomargarine, cheese and butter and condensed milk find their way to all peoples. The effect upon the Michigan farm come much of the commodities that are now produced.
'Survival of the fittest.'— This term means that in a state of nature the animal best fitted to maintain itself under existing conditions, always drives out the other males, and becomes the progenitor of all the young brought forth in the herd, flock, drove or band, of which he becomes the acknowledged head. It insures the maintenance of vigor and vitality.

All improved breeds have originated by cross-breeding and then inbreeding the ones showing the most valuable characteristics.

'We should cultivate the enhanced value which comes from perfect finish of his material and becomes the producer of all the young brought forth in the herd, flock, drove or band, of which he becomes the acknowledged head. It insures the maintenance of vigor and vitality.

All improved breeds have originated by cross-breeding and then inbreeding the ones showing the most valuable characteristics.

'Undoubtedly the first attempts to improve domestic animals was by selection.—The best and most vigorous specimens of the species were retained to reproduce themselves. Advancement by this method, while slow, is also certain, provided the person carrying it on is sufficiently versed in the physiology and anatomy of the animal to enable him to detect the slightest deterioration in constitution, vigor and form, and the ability, by further selection, to remedy the defects.

'Undoubtedly in attempting to remedy defects more rapidly than could be done by selection the experiment of cross-breeding was first tried, and to it we are indebted for much of the wonderful improvement that has been made in our domestic animals within the past two hundred years.

'But while selection and cross-breeding had resulted in great improvement, there was still a weakness in breeding methods that demanded strengthening. It was found that to maintain what had been gained continual importations of animals had to be resorted to, as cross-breeding required continuous infusion of new blood. The cross-bred animal, while vigorous and of

Mrs. Scott, librarian of the mining school at Houghton, called at our library on Saturday and seemed much interested in our collection of books. She said that our old stu-

...now at the mining school always look for the Record and examine its contents closely, thus showing their continued interest in M. A. C.
The “Round-up” Farmers’ Institute.

(Corresponding from 6th page)

Grayson E. Miles, with 1 Races, from Kalamazoo, Mich., visited the College during the institute meeting. His address is 1528 West North St. A letter from Guy Stewart to Prof. Kedzie states that at Grafton, W. Va., he met a gentleman named Alex. Leeds, D.D.S., and discovered that he had attended M. A. C. one term in ’92.

"Well, you may just ‘reckon our tongues waggered,’ as they used to say when we were kids. When he last saw the place he said they had two buildings and eight acres cultivated, but went to Jackson, took stage for the College, over a road that was half plowed and half plowed, for a while. Of course I told him of the progress of the old place, and he was anxious to know more. He is very anxious to get a copy of the ‘Alumnus Cat,’ and if you can I wish you would send him one. I shall give him a chance to get acquainted with me. Perhaps I had better not.

First Lieutenant R. S. Welsh, 94, is (according to the Washington Post) one of two supervisors immediately under the governor in the province of Tarlac, P. I.

Annual Banquet.

The second annual banquet of the C. L. S. ’02 Debating Club was held in the society rooms Friday night.

Shortly after midnight the members gathered about a heavily laden table and ample justice was done to the following menu:

Oysters 90 cents
Olive Espanola
Olive Europera
Olive Corinna
Cucumbers salt pick
Peppered vinegar pick
Siliconi witches
Ciorus oliveen crudo
Cream puff
Acier juglans syrup
Ice cream
Cake
Ciorus orange crudo
Colita
American extras

The President E. R. Bennett acted as toast-master and these are the toasts which were responded to:

The Witch of Ingham, L. D. Rudolph.
This Solempne Occasion, B. Wertheim.
The Evolution of the Octahedron, M. T. Crocker.

The basket ball game Saturday afternoon between Ypsilanti and Detroit A. C. ’02.

The Evolution of the Octahedron, M. T. Crocker.

The basket ball game Saturday afternoon between Ypsilanti and Detroit A. C. ’02. Scores 312 to 320. Each team played three games, the latter by a score of 21-6. It was the most exciting game of the season. One of the Ypsilanti players with 94 points, made the basket with only 2 seconds left on the clock.

A. C.’s united team work.

All meats.

The winning team will have played an extra game.

STATE GROUP.

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