The above cut shows the class in stock judging together with the horses owned by Mr. A. A. Palmer, of Orleans. Mr. Palmer is engaged in the breeding of Percherons and sent five fine specimens to M. A. C. These animals were here an entire week, thus giving the students an excellent opportunity for a critical examination. Mr. F. J. Noble, of Mulliken, sent two three-year-old fillies of the Percheron type. Mr. Hurd, of Lansing, brought a large, well proportioned Clydesdale, and Mr. Kilbourne a good roadster of the Wikes strain. Dr. Waterman had charge of the judging and two weeks were spent in the work. This is the first time thoroughbred horses have been brought in from a distance. Heretofore the grade horses of the farm were used exclusively. The department has proved not only interesting, but also very valuable. The owners brought in their horses free of charge and the class hereby expresses its gratitude. All the animals shown were prize winners and the different breeders have certainly been fortunate in the selection of their animals. The results have been very satisfactory to the department, suggestive to the owners and invaluable to the students. It might be interesting to note that the largest Percherons and the Clydesdale each weighed over 2100 pounds.

HORT. CLUB.

At the last meeting Mr. F. W. Robinson gave a talk on soil chemistry and soil physics. He showed, among other things, what a very dilute nutritive solution will grow a healthy plant, and how a slight change in the strength of this solution will cause a marked change in the growth of the plant. Mr. Gunson then gave an interesting and instructive talk on citrus fruits. He illustrated his talk with fruits received from Mr. F. C. Reimer, '93, of Florida, Mr. O. L. Ayrs, '92, presented the club with a peck he got while visiting the old Mount Vernon estate.

The next meeting will be held on the first Wednesday evening of next term.

Y. M. C. A.

The Thursday evening prayer meeting was led by E. A. Needles, theme, "God's unfailing promises," The discussions on the subject were interesting and the meeting was well attended.

Chapel services Sunday morning were conducted by Rev. R. C. Dodd, of Lansing, Text: 2 Cor. 13: 11, "Be perfect." The sermon was very interesting and all present were well repaid for attending. Mr. Howard Bement of Lansing, addressed the Sunday evening meeting of the Y. W. and Y. M. C. A. His theme was, "Purposeness and accomplishment, or how to achieve true happiness," Mr. Bement established the proposition that happiness is the one great aim of all persons and peoples of all time from the first to last and that the reason why the vast majority fail to achieve happiness is that they are looking in the wrong place for it. Mr. Bement showed that Christ gave the secret of happiness in the first 16 verses of Jno. 13, ending with the 17th verse, "If ye know these things, happy are ye if ye do them."

The discourse was excellent and the services were well attended.

The freshmen in botany are studying the subject of seeds and fruits. Those of economic importance receive special attention. The entire term is spent in this work which is largely laboratory in its nature.

The program for the M. A. C. Farmers' Club for Dec. 16 is a report from the delegates who attended the International Live Stock Show at Chicago, and those who attended the meetings of the State Association of Farmers' Clubs held at Lansing Dec. 9-10. As this will be the regular meeting for the election of officers let all those who are interested in club work attend, and also those who wish to know the ideas of the best agriculturalists of the state in regard to needed reforms, and of the stock breeders of the U. S. in respect to live stock.

Among the speakers from abroad for the Round-up Institute are D. J. Crosby, '93, from the Department of Agriculture, who will give his illustrated lecture on Nature Study and School Gardens. Major H. E. Alvord will speak on dairy lines. N. A. Clapp, the newly elected president of the Farmers' Clubs will be a speaker. One fare tickets will be on sale Feb. 22, 23, and 24, return to and including the 27. In the Upper Peninsula tickets will be sold on the 22nd and 23rd, good to return March 1st.

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THE M. A. C. RECORD.

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TUESDAY, DEC. 15, 1903.

ALUMN.

W. K. Prudden is a manufacturer of automobile wheels in Lansing. His company makes all wheels used in the United States during the season of 1903. He is also agent for Oldsmobiles for Central Michigan. He made the following closing deals of stocks at an entire discount, given by the Business Men's Association to the citizens of Lansing. In December, 1903, the firm of W. K. Prudden, is proving of great value to him. His address is 609 S. Avenue.

E. R. Bennett, assistant horticulturist of the experiment station and in charge of the citrus department at the Connecticut Agricultural College, Storrs, Connecticut, visited here last fall. He was called to Michigan on account of his mother's death. Affairs at Storrs are running smoothly, Prof. A. G. Galley, '08, and Director L. A. Clinton, '07, and their respective families are well. Crops on the college farm have been larger than usual and the experiments have been uniformly successful.

E. S. DeGarmo is receiving teller of the American Savings Bank of Toledo, Ohio.

THE M. A. C. RECORD.

S. L. Ingersoll, who has been assistant chemist at the Mt. Clemens Sugar Factory, visited M. A. C. last Thursday while on his way home. The factory sliced about 14,000 tons of beets this season, running about 327 days. Beets were said to be getting unpopular in the vicinity of Mt. Clemens and it is doubtful whether the factory paid current expenses.

W. D. Hard is professor of Agriculture in the University of Minnesota. He was in Rhode Island last year. M. A. C. now has two men at this university. Wm. Mannion, '88, is there as professor of horticulture.

A. L. Corl is in the employ of the Enterprise Boiler Co., Youngstown, Ohio. He is engaged in structural steel and plate work and writes that the descriptive geometry studied at M. A. C. is proving of great value to him. His address is 203 S. Avenue.

The experimentation which is considered along three lines. First—It falls upon the student in any subject before he may adhere to inductive or some other method; and should be found whose only aim, regardless of methods, is to create a spirit of investigation.

Some consider the inductive method the only one for laboratory classes. Those who are acquainted with normal methods and have seen how a subject is unfolded before a class of infants may fully appreciate the significance of induction. In an hour's questioning before a class of infants, there might possibly be developed a cat that has four legs, one tail and two eyes, and it is doubtful whether class of three-year-olds would make it his aim to simplify matters so much as to understand.

The place for induction, therefore, belongs to research work, after the student has his bearings in a subject and he really becomes an advanced student in any subject before he may adhere to inductive methods.

The second part of Dr. Marshall's address was taken up with the Experiment Station. Its work was considered along three lines. First—The experimentation which is fundamental to the discovery of new truths. Second—It falls upon the student first gains knowledge of plants or other things for the benefit of farmers. Third—To scatter knowledge. At the present time bulletins are sent to about 40,000.

An interesting discussion followed this, when the best work was shown by members of the faculty. Dr. Marshall and his assistants, including Miss Armstrong, then gave a practical demonstration of things related to the department. Pasteurized ice cream and incubated wafers were served in the general laboratory. All enjoyed the evening and pronounced it a success.

Governor Bliss has given three gold medals in the educational botanizer scoring contest. One goes to Mrs. James Harris, Traverse City, who had the highest average score in dairy class, 92.2. The second and third medals go to Helmer Rablink, Chesterfield, and E. J. Heaton, Dorr, who tied for first place in the creamery class with a score of 95.3. There were 3 in the dairy class and 50 in the creamery class. The interest was good throughout the test. Another test will be conducted next year. Governor Bliss has taken a great deal of interest in this contest. A special diplomas were awarded to J. B. Gilbert, who received an average score of 92.2 in the creamery class. Messrs. Khalib and Gilbert received their training in the special courses at M. A. C.

The Sophomore in agriculture under Prof. Jeffery are engaged in very practical work. Each student is drawing an original plan for a dairy barn that will hold thirty dairy cows with the accompanying young stock. They must contain many necessary parts of a dairy barn up to 60 feet in diameter with a silo in the center. After the designs are complete, sections are constructed which contain all the details of the structure. Lumber is used for these sections on a scale of three-fourths of an inch to a foot and each student makes out a bill of all material needed. This is the first time such work has been done and unusual interest is shown by all.
THE M. A. C. RECORD.

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A ABOUT THE CAMPUS.

The mechanical department contains templates putting in a complete telephone system for the use of the different shops.
The class room in bacteriology has a fine portrait of Pasteur. Dr. Marshall secured this in Paris last summer. The artist is Desmonlin.
The farm department has purchased a Victoria sow from M. T. Storey of Lowell. This sow has won first prize at the Michigan fairs in different shops.
The botanic garden has gone into winter quarters. Delicate plants are being removed from the superfluous work in the testing of engines. Two animals have been purchased, others bound up and covered in various ways till April 15, 1904.
The seniors in bacteriology are now working on unknowns. Each student is supplied with a mixture of organisms which are to be isolated and identified.
The class in European history is studying nineteenth century restorations. Maps are drawn of all important situations such as the development of the German empire.
The mechanical department is anticipating the purchase of two new lathes for use in the shops. They are much needed on account of the large increase in the upper classes.
The horticultural laboratory is having a new cement floor put in the basement, and one room is being fitted up for experiments in the preparation of spraying material.
J. A. Fraser, '03, has changed his location recently and is now doing structural drafting for Contractor Schlenter, Chicago. Mr. Fraser's address is 314 Marguerite P'th 204 Dearborn St., Chicago.
The Phi Delta Literary Society gave their 2nd fall term party on Friday evening, Dec. 4th. The rooms were very tastily decorated. Prof. and Mrs. U. P. Hedrick acted as chaperones.

A new boiler has arrived at the engine house. It is a modern type of 150 horse power. Another one is expected in a short time. They will be equipped with the ones under test and will make a fine addition to the boilers now in use.
The seniors in veterinary science are engaged in the dissection of horses. Two animals have been secured and the class has been divided into two sections. The work will continue for three weeks.
E. C. Crawford has constructed an indicator rig which is quite unique in its method of operation. It reduces the length but maintains the speed and direction. It is used by the class in experimental laboratory work in the testing of engines.
The horticultural department is removing some of the superfluous trees on the campus. In some places the trees are rather crowded, others are out of place or obstruct views. Two Norway spruces near Dr. Beal's house were 45 years old. They were planted some 40 years ago.
The department of physics has recently purchased two 1000 ohms resistance boxes, an electric motor, a fluoroscope, a X-ray tube, a blast lamp, one rheostat and several other articles for the laboratory. Dynamics and electric motors will be rested for the course in electrical engineering this winter.
J. W. Nelson and H. C. Hogenmoll, special students in horticulture at M. A. C. last year, are now in the employ of the Bureau of Soils. They spent the summer in Mary­land examining soils as to physical and chemical properties. They will spend the winter in Washington arranging data and getting ready for next year's work.
The class in general chemistry is determining the atomic weight of sodium. 229 has been the best result so far. The results vary from 21 to 24, and several have secured 23.2. Since 23 is the exact weight, these results are very good. Corrections are made for pressure and temperature. 12.3 has been obtained for carbon.

M. A. C. congratulates the Nebraska Agricultural College in its success at the Live Stock Show. The college took first prize on a steer, E. A. Barnett, '97, Howard Smith, '99, and W. P. Nisly, '03, for raising cattle. They have charge of the agricultural department. While M. A. C. had no prize steer this year, she feels proud of the record made by Nebraska, especially because her graduates have charge of that work.

The State Board met Dec. 9, 10:30 a.m. Secretary Brown was authorized to advertise for bids for a central boiler house. Two lathes were ordered purchased for the mechanical department. H. J. Eastac, '01, was offered the position of instructor in horticulture and assistant horticulturist. Prof. W. O. Hedrick was allowed an assistant for the remainder of the year.

Stewards and directors for the clubs for the next term.
Clubs A, Steward, S. Armstrong, Director, B. A. Guerry.
Clubs B, Steward, O. Barke, Director, H. T. Ross.
Clubs C, D, Steward, A. J. Anderson, Director, F. Johnson.
Clubs G, Steward, C. I. Auten, Director, C. Reed.
Clubs H, I, Steward, J. Schaefer, Director, E. A. Seeley.
THE M. A. C. RECORD.

DEBATING CLASS.

The first series of debates to select the candidates for the M. A. C.-Ypsilanti debate was held on Saturday afternoon, and the following candidates were selected:

A. A. Fisk, A. D. Smolins, C. D. Sterling.

The decision of the judges was for the affirmative. The following points were developed by both sides.

The decision of the judges was for the affirmative and gave Anderson the victory.

On Saturday evening, December 12, the Union Literary Society entertained the faculty and students with a program of music, dance, and entertainment. The proceedings were divided into two parts:

DIVISION A.

The affirmative won the debate and was selected according to rank: Miliar first, Johnson second and Morbeck third.

DIVISION B.

The judges decided in favor of the affirmative and gave Anderson first place, Gordon second and Wessels third.

DIVISION C.

The affirmative side won this debate by one point and the debaters selected in order of proficiency, Severance, Fisk, Sterling.

DIVISION D.

The affirmative was again victorious and the debaters were ranked as follows: Bates first, Kitty second and Smith third.

The debates were good in each division and very interesting. The decision of the judges was for the affirmative. It is believed the whole college will be interested in these debates.

At the Debate Club Dec. 10, the question, "Resolved, That labor unions are injurious to the welfare of the general public," was debated by Messrs. McWethy and Dorsey affirmative, and Wright and Wermuth, negative. Many excellent points were developed by both sides. The decision of the judges was for the affirmative. The following officers were elected for next term: President, L. McWethy; vice-president, I. Wessels; secretary and treasurer, C. H. Cornor, corresponding secretary, R. C. Potts. Literary committee: Dr. Edwards, B. H. Gross, J. H. Fisk, L. J. Martin.

On Saturday evening Dec. 13, the Union Literary Society entertained their lady friends at an informal and very successful entertainment. The program consisted of music, dance, and entertainment. The number of students in attendance was very large.

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