

What the Excursionists See and Hear this Year at the O.A.C.

The annual June excursions run by various Farmers' Institutes to the Ontario Agricultural College are on, and crowds of a thousand a day and upwards de-train at Guelph depot, pack the street cars leading to the College, swarm across the campus to the gymnasium, where, seated on benches, they are regaled on the usual ration of sandwiches, coffee and cheese, which is afterwards given chance to "settle," while President Creelman delivers a breezy address of welcome, explaining the work of the College, urging the visitors to send their boys and girls, and finally directing the throng where to go to hear the work of the several departments explained by their respective professors. A member of "The Farmer's Advocate" staff made the rounds last week, in company with a bright and numerous representation of the stalwarts of Peterboro, and for the benefit of readers who may not take in the excursions this year, we publish a few gleanings gathered with eyes and ears.

NEW BUILDINGS.

One never visits the O. A. C. without finding some evidences of new building or extensions to the equipment. This year the first feature to strike the eye is an immense water tank, mounted on a steel frame, and rising behind the main building to such proportions as to dwarf the smokestacks which used to mark the College as one approached Guelph on the train. The new tank will give vastly better pressure than used to be possible, and will make it much more convenient to maintain an adequate supply of water.

Then there is the new Machinery Hall, which, though depicted in the two-page illustration in our Christmas number, is a new building to most of the visitors. Its two stories are of red pressed brick, on a limestone foundation. It is 146 feet long and 64 feet wide, and stands back of the Chemical Building. The north-west wing and the central portion are devoted to manual training and farm mechanics. In the basement of this wing is a forge room, equipped for purposes of instruction in metal work and blacksmithing. In the basement of the central part is accommodation for the storage of farm machinery and implements. On the first floor is situated a machine shop, offices and store-rooms. Across the corridor is a room to be used for demonstration purposes in farm mechanics. It also contains a unique collection of domestic utensils and farm implements of early pioneering days. The second floor is occupied with class rooms for woodworking, drawing, etc., offices and store-rooms. The south-east wing of the building is occupied by the farm carpenter, blacksmith and painter.

The Chemical Building was considerably enlarged last year, without in any way marring the consonance of the general plan. It is now 106 feet long, and 75 feet across at the widest point. It contains lecture rooms and commodious laboratories for analyses and research work, while a feature of the new part is a specially-equipped room for investigating wheat and flour problems.

At the north corner of the Main Building, which, as most of our readers are aware, contains the students' dormitories, we were pleased to observe the foundations of an extension to the wing containing the dining-room. The addition will provide on the ground floor for an extension of the dining-room, as well as rooms for a laundryman and a baker. The second and third stories will contain twenty new rooms, to accommodate forty students.

THE INFLUENCE OF THE COLLEGE.

Two instances showing the influence being exerted by the O. A. C. both at home and abroad were brought to our attention, and are worth repeating. A few weeks ago the College was visited by J. A. Schwartz, of Norway, who took a two years' course in 1881-2 and 1882-3, during the time his father was Norwegian consul at Quebec. Mr. Schwartz is warm in his praise of his college course, which has enabled him greatly to improve conditions in his native land. He now owns a line of eleven steamships plying from Norway to all parts of the world, and in the course of a personal inspection trip he dropped off the C.P.R. at Smith's Falls on his return visit, to take a run down to his alma mater.

The other instance was that of a man who complained to President Creelman that he had never received a cent's benefit from the O.A.C., had never even obtained a pound of seed from the farm. On inquiry it was learned that this man was using in his regular farm practice varieties of wheat, barley and oats all introduced into the Province by the Experimental Department of the Ontario Agricultural College. Thus do the benefits of such an institution filter out and irrigate the whole face of the country. The June excursions are an invaluable means of disseminating useful knowledge, the visitors being profited, as the President expressed it, by the good ideas, the pointers, and by the acquaintances they may make.

THE EXPERIMENTAL DEPARTMENT.

In the Department of Field Experiments, Prof. C. A. Zavitz is on hand this year, back from his twelve months' vacation abroad, studying and observing in the vast domain of plant-breeding. While absent he was visiting the men who were doing the greatest work in this line, and mentioned as some of the foremost of these Prof. Biffen, of Cambridge University, England; Prof. Wilson, of St. Andrew's College, Scotland; Prof.

Tschermak, of Vienna, Austria-Hungary; Prof. Johannsen, of Copenhagen, Denmark; and Prof. Wittmak, of Berlin, Germany.

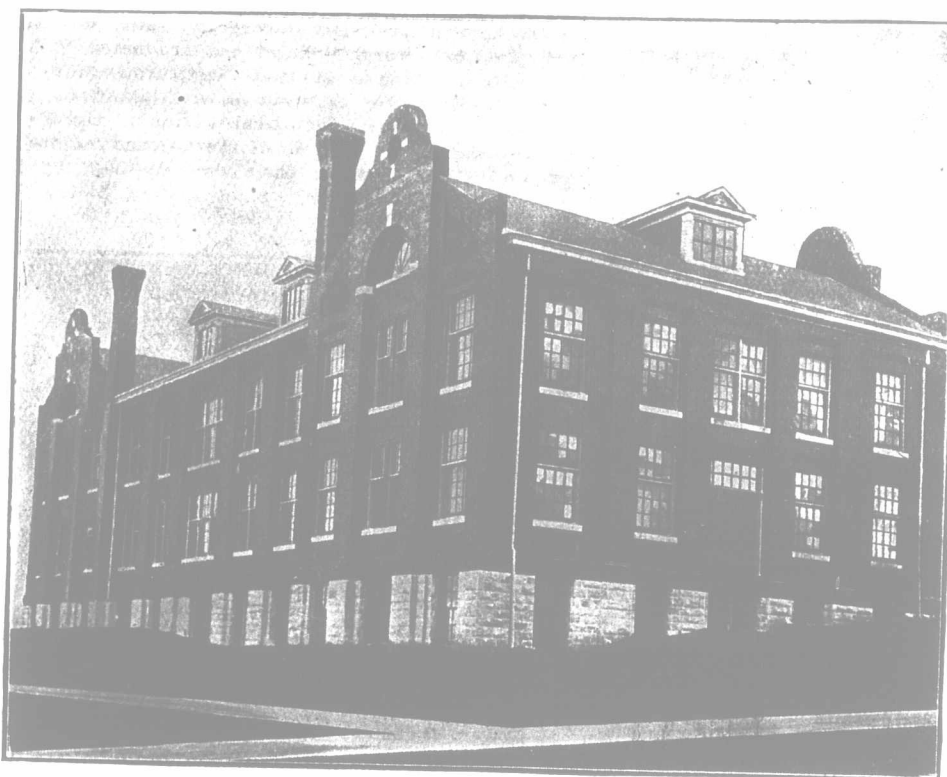
Among the experimental plots, Prof. Zavitz is at home, and has results and figures on his tongue's end. We jotted down a number of notes as the crowd passed around, piloted by the Professor, pausing here and there to comment on certain experiments. In the experimental department are 50 acres, containing over 2,000 small plots. A general system of rotation is practiced so far as possible. The 50 acres are divided into four sections, on each of which are grown by turns: cereal crops; cultivated crops, such as corn, roots, etc.; cereals again; and then pasture. The year in which the cultivated crop occurs the land is manured with 20 tons or about 12 good loads of barnyard manure per acre. This means that about one-quarter of the land is manured each year. No commercial fertilizer is used, except a little for distinct fertilizer experiments. All experiments are conducted with great care, and repeated for several successive years, so that figures quoted are in nearly all cases the averages of many years' work. Following are some of the points brought out:

FIELD ROOTS.

Mangels and turnips have yielded on the average two-thirds of a ton more per acre sown on the level than on ridges. The carrots are thinned to 4 inches apart, the mangels and turnips to 10 inches. A closer stand gives larger yields, but the roots are so small as to require too much handling. The distances recommended are a profitable medium between the very close stand, which gives maximum yields, and the very thin stand, which grows the largest roots. Yellow Leviathan is the best mangel. It outyields all the Mammoth Red varieties, and is of better feeding and keeping quality.

BARLEY.

The best variety of barley is Mandscheuri, of which about 500,000 acres are now grown in Ontario, being



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sown probably on two-thirds of our farms. This variety was imported by the College in 1889. After testing it for five years the College distributed it in small quantities through the Experimental Union. The seed was increased and distributed by the experimenters, and has proven of immense value to the Province—enough to pay for several agricultural colleges. They are now trying to develop an improved strain of it. From 9,000 seedlings four years ago, one plant was selected as the best and most typical plant. Last year there was enough seed descended from this plant to supply small lots to 250 farmers. It is sent out as Barley 1. It is better strawed than Mandscheuri, and, in fact, better all round, though the yield is not materially larger.

BROADCASTING VERSUS DRILLING.

"How are the grains sown on the experimental plots?" was asked. "Broadcast," was the reply, "for the sake of convenience, although in experiments we have secured rather better results from drilled grain. If the land is in good condition the advantage is only about two-thirds bushel per acre, but if the season is late and the ground dry the advantage of drilling is much greater. On the other hand, in very early spring, when the ground is quite moist and only the surface is warm, broadcasting gives equally good and sometimes even better results than drilling. The philosophy of it is that the drill puts the grain down deeper, and when the lower soil is not warm enough it can readily be seen that shallow planting is better than deep.

WHAT GRAINS TO SOW FIRST.

In sowing spring grain, put the wheat in first, then barley, then oats and peas last. In many years' experiments, spring wheat sown as soon as spring had opened and the ground was fit, has given an average of four bushels per acre better yield than that sown a week later. Barley also has given best results when sown at the first date. With oats the best results are shown by the plots put in at the end of the first week after seeding opens; while peas have done best at the end of the third or even the fourth week after seeding opens.

Moreover, after the best day for the sowing of each particular kind of crop has arrived, then for every day's delay in sowing there is a decrease in yield of 58 pounds per acre in the case of oats; 52 pounds per acre in the case of barley; 28 pounds in case of wheat, and 22 pounds per acre in the case of peas. In considering these figures the reader must bear in mind that the soil on the experimental plots is an excellent loam, with unusually good drainage.

CLOVERS AND GRASSES FOR PASTURE.

Prof. Zavitz believes we should give more attention to the improvement of pasture lands. The practice we have dropped into of late years of seeding with only timothy and clover, and leaving these for several years on account of labor scarcity, is liable to result in some very bare pastures, if we should experience such dry seasons as we had some years back. From the Bureau of Industry reports it seems that we have been increasing our grass acreage by 140,000 acres a year during the past decade. Timothy is not a good pasture grass. In drouthy summer weather old timothy meadows dry up. Any of the following are better pasture grasses than timothy: Meadow fescue, orchard grass, tall oat grass, or meadow foxtail. For some years experiments have been conducted in seeding various mixtures of clovers and grasses with a grain crop, and then taking various cuttings and weighing them,

to ascertain the amount of hay they would yield. Of all the mixtures so far compared, tall oat grass and alfalfa have given the greatest yield, amounting to one and a third tons more dried grass per acre than was given by timothy and red clover. Both are hardy, both are early, and both come on readily after cutting, producing a third crop for hay. In pasture experiments, tall oat was one of the first grasses chosen by the stock. Cattle are fond of both alfalfa and tall oat grass when not allowed to become too old. Neither will do well, however, on a cold wet soil. The mixture tried was 12 pounds alfalfa and 20 of tall oat grass per acre. This mixture, however, is not recommended for general use, for various reasons. Instead,

Prof. Zavitz advises when seeding land to be used the second, or the second and third years as pasture, to sow a mixture of, say, six pounds common red clover, one and a half pounds timothy, two and a half or three pounds meadow fescue, the same of orchard grass, and two pounds tall oat grass.

If laying the land down for a longer period, he suggests for the average soil the following mixture of a few of the very best and hardiest grasses and clovers: Orchard grass, 4 pounds; meadow fescue, 4 pounds; tall oat grass, 3 pounds; meadow foxtail, 2 pounds; timothy, 2 pounds; alfalfa (if land is suitable), 5 pounds; alsike, 2 pounds; white clover, 2 pounds; or a total of 24 pounds. Contrary to the common idea in this country, the above is not a heavy seeding for permanent pasture. In the Old Country they recommend 40, 45 and 50 pounds per acre. As to yield, a plot seeded as above yielded an average of over five tons of hay per acre for ten years, without any manure.

CATCH CROPS FOR PASTURE.

A question often asked is what to sow in spring to provide pasture the same season? Six or seven years' experiments with 17 different crops have indicated the following mixture as the best one tried:

14 bushels oats.
30 pounds Early Amber sugar cane.
7 pounds common red clover; or a total of 88 pounds per acre. The oats come on first, later, in hot weather, the sugar cane supplants the oats, and towards