

The Merits and Demerits of Agricultural College Courses.

In order to give further information to our readers on the question of agricultural education, we submit an analysis of the agricultural courses given by the colleges which have been successful in attracting students. Many farmers, on being told that chemistry is one of the subjects taught at an agricultural college, agree as to the wisdom of such instruction, and say that they would like to be able to analyze their stock feeds, soils, etc.; a mistaken idea, and one that is not practical. The average graduate of a four-year course in agriculture is unable to properly conduct a chemical analysis of feeds or soils, even if he could afford the elaborate chemical outfit necessary.

WORK FOR THE SPECIALIST.

Soil analysis and analysis of feeds is the work of a specialist, the agricultural chemist, and any attempt to load a farmer's son up with chemical formulas at an agricultural college, or to turn him loose in a laboratory full of glassware, test tubes, retorts, filter paper, reagents, etc., is only waste of valuable time, time which should be given to discussion of principles and results of field and feeding experiments. Similarly with botany, a subject, as taught at many agricultural colleges, little applied and narrow in scope. Here again the student is made weary with endeavoring to memorize the Latin names with which it has been deemed necessary by the scientists to load their subject. Geology, as with the two preceding subjects, is a deep study, but of nonpractical benefit to the farm student, because he would have to delve too deeply and spend too much time to get information of questionable value to an up-to-date agriculturist. It is, of course, highly interesting to know that back of the ages the horse was a four-toed animal and that certain species of reptiles are now extinct, and that certain strata were formed during the Ice Age, yet such information given to the farmer will not aid him in feeding his horse better, husband his farm's fertility more carefully, aid him to put first-class products on the market, or help him to enjoy life better, so that we insist on a thorough appreciation of the practical in the shaping of an agricultural course. It is not possible for a university to give a course of any practical value to a farmer, in which opinion we are borne out by experienced teachers and educated farmers.

THE LONG COURSE MAKES TEACHERS.

In the Scottish Farmer is described the work required for the B. Sc. degree in agriculture at

the University of Edinburgh. As that paper pertinently puts it, "B. Sc.'s in Edinburgh seem to need to know as much as all their teachers put together." It would doubtless suit those people who are wedded to higher education, but such a course is impracticable for work-a-day farmers in Canada. As one of the agricultural colleges puts it in their catalogue, "The advanced instruction (the four-year course) is designed to fit men for teachers and experimenters (in agricultural colleges and experiment stations); the special, or short course (of one or two years), is intended for young persons preparing themselves to become farmers, and who wish to avail themselves of technical and practical instruction in modern scientific agriculture."

It has been found that the long-course students in agriculture, especially in those institutions which have a university connection do not go back to the farm; in fact, these students look for a professorship at some college, in an experiment station, or a position not necessarily connected with agriculture. This statement is admitted by the colleges to be true, and was so found by the Manitoba Agricultural College Commission when lately visiting the different colleges.

The course outlined in the "Farmer's Advocate" we believe would be popular and practical, as a somewhat similar course in an American college (Wisconsin) has resulted in the greatest increase in number of students in the same time of any agricultural college on the continent. The subjoined schedule will aid the reader materially, and by its use he will be enabled to see where some colleges lack in the giving of practical and technical instruction.

As will be readily seen, the length of the time

spent at the colleges varies. For our purpose the length, of course, matters little, provided the course is not too condensed, and that the subjects of greatest importance are given a sufficient amount of time in the curriculum. It must not be forgotten that an agricultural college is a professional school for the farmer as the medical school is for the doctor, etc., and therefore professional studies should occupy the student's time while there. Such being the case, it will at once be seen on scanning the subjoined schedule that some of the colleges devote too great a proportion of their time to non-professional subjects, such as literature, etc. In the case of Guelph, nearly as much time is given to subjects to be got at the common and high schools as is given to live stock, etc. In the North Dakota College term, it will be noticed that the hours for academic studies outnumber those given to agriculture, the Minnesota school being open to the same charge.

The difference between the total hours of study, compared with the length of college term (for instance, Iowa's two year terms of eight months each, with 1,296 hours, and Wisconsin's two year terms of four months each, with 1,095 hours), is accounted for by a more condensed time-table and less time given to manual labor, military drill, etc.

THE SHORT COURSE HELPS THE FARMER.

Comparisons might be continued, but we prefer to let our readers study the schedule for themselves. Suffice it to say, that we are of the opinion that animal husbandry and field agriculture should be predominant in the course, plant life and horticulture, shop work and farm dairying coming next in importance. Valuable time should not be given to elementary inorganic chemistry with its formulas, atomic weights and combinations, nor in botany, to the memorizing of a lot of natural orders and their peculiarities; in fact, we know from practical experience that students without a particle of the instruction condemned above were able to appreciate and grasp fundamental principles and practices of agricultural chemistry and plant life delivered to them unburdened with the fripperies of scientific formulas or nomenclature. The "Advocate" therefore insists that the non-essentials be relegated to those institutions devoted to delving in the musty lore of the Greeks and Hebrews, and that the agricultural course should contain only those essentials which are inseparable from progressive agriculture.

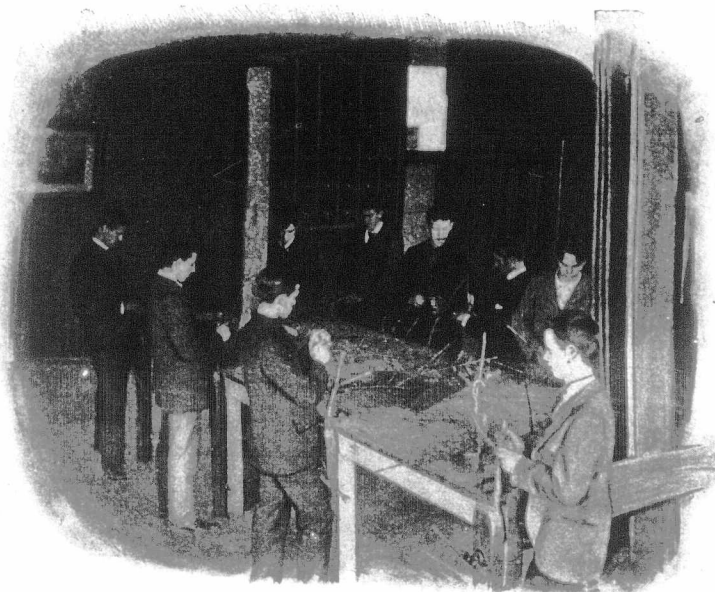
This season has witnessed, as recorded in the last issue of the "Farmer's Advocate," the successful inauguration of a series of short courses at the O. A. C. in stock and grain judging, poultry-keeping, farm dairying and domestic science which bid fair to be most popular and a move in the right direction.

Vetches for Pasture.

I have a hundred-acre lot on lake shore, six miles from home. It is very rough, broken land, a good deal of it very high and dry. I never intend to farm it, any more than to make a pasture of it for young cattle. I chop and burn a portion of it every year. How would it do to seed it with tares or vetches? I am told they make a good crop of forage where nothing else will grow. Is that so? If so, at what time of year would you sow the seed? Would there be any danger of the cattle carrying the seed home, suppose they were brought home about the first of November? Of what value is it as a forage plant? I see the seed advertised in catalogues at \$2 per bushel.

Lanark County, Ont.

Ans.—Vetches are an annual and a leguminous crop, something of the nature of peas, and are sown from year to year. They are more commonly used as a soiling crop—that is, for cutting green and carrying to the stable or feeding in racks in summer—but may serve a good purpose as a forage or pasture crop, especially for sheep and pigs, and probably would answer as well as any other crop for the purpose required by our correspondent, even for cattle. The seed should be sown as early in the spring as the land is dry enough to work right, at the rate of one and a half bushels to the acre, and well covered with the harrow, and should be pastured when from six to eight inches high, as they will grow up again after being eaten down, but if allowed to grow long on rich land will lie flat on the ground and the vines will rot. It is the common practice to sow some oats with them to hold them up, and it might be well in this case to seed with one bushel each of vetches and oats. Grass seed, as timothy and clover or blue grass, might be sown at the same time, and would probably prove a fair catch if sown in early spring. If this is not practicable, the grass seed could be sown in the fall and might make a fair crop the following summer. There would, of course, be no danger of the seed being carried by cattle if kept eaten down and not allowed to ripen. If they ate the ripened seed there might, but the tame vetch is not troublesome, while the wild vetch is.



STUDENTS GRAFTING AT ONTARIO AGRICULTURAL COLLEGE.

ANALYSIS OF COLLEGE SCHEDULES, SHOWING APPROXIMATELY HOW THE TIME IS ALLOTTED AT SOME OF THE LEADING AGRICULTURAL COLLEGES.

Name of College and Length of Course.	LIVE STOCK Including Feeding, Breeding, Judging, Management and Veterinary Science (VS).	AGRICULTURE Field Crops, Soil Cultivation, Physics of Agriculture and the Principles Involved, Farm Drainage, etc.	PLANT LIFE AND HORTICULTURE.	SHOP WORK—Carpentry, Blacksmithing, Engine Practice.	FARM DAIRYING.	AGRICULTURAL CHEMISTRY. Literature, Arithmetic, Composition, Geography, History, Etymology, Stenography, Languages, etc.	BACTERIOLOGY.	PARLIAMENTARY PRACTICE.	FARM BOOK-KEEPING.	ECONOMICS.	GEOLOGY.	POULTRY AND BEES.	BIOLOGY. BOTANY (B), ENTOMOLOGY (E), ZOOLOGY (Z).	TOTAL HOURS.
WISCONSIN—2 years of * 4 months each.	330 60 (VS)	390	203	161	15	2	70	28						1095
GUELPH—2 years of 6 months each.	156 91 (VS)	247	134	111	39	52	182	237	26				B 52 E 26 Z 65	1353
N. DAKOTA—2 years of 8 months each.	300 240 (VS)	540	60	180	300	120		710	30	60	60			2060
MINNESOTA—3 years of 6 months each.	149 205 (VS)	354	231	286	195	231	195	221	65	52		E	65	1898
NEBRASKA—3 years of 6 months each.	312 192 (VS)	504	192	144	120	96	120	261		48		B 96 Z 48	144	1632
IOWA—4 years of 8 months each.	272 224 (VS)	496	240	256	32	112	176	684	32	48	48	B 160 E 32 Z 144	336	2460
IOWA—2 years of 8 months each.	176		272	192	64	160	128	176	32	32		B 32 E 32	64	1296

N. B.—* The course upon which the "Advocate" plan is modelled; it will be at once noticed that this course is well balanced, essentials receiving the proper consideration, the course being a professional, not a general one.
† A considerable part of this time is devoted to inorganic chemistry.