

# THE FARMER'S ADVOCATE

## AND HOME MAGAZINE.

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is not enough that he be of that breed, but also that he is sound and good-natured, a good individual, and descended from a superior parentage on either side of his lineage. Nor is it enough that the particular breed we have in hand should be adhered to in choosing the services of a stallion. There is often a wide difference in form and characteristics between the first and second prize horses in big classes of good ones at our leading exhibitions. Take, for example, the Clydesdale class at the recent Toronto Horse Show: the first-prize horse differed as much from the second-prize horse as though they belonged to different breeds, although each was an excellent individual worth a big price. On some classes of mares the first-prize horse would be more suitable, and *vice versa*. The breeder who is to select well, must have in his mind, and well defined, the form or type of an animal he desires to breed. This image, though only existing in the mind, should be as clearly defined as though it were a living thing. He is a victim for the sharp groom or agent unless thus equipped. Without being able to select with reference to a true type, he may undo in one generation what has been effected in two or three others, thus going back wards in having his mare produce a foal of less excellence than herself. Disposition and action are as important as form, and these have their indications that need not be mistaken by a horseman. It is of utmost importance to select a good walker, as a slow-walking work horse is a time-waster, and a slow-walking roadster is exasperating to its driver.

With all the individual excellencies that could be desired, a horse should not be used as a sire unless he is "well come." And that he have length of

pedigree is not so important as that it possess excellence, especially in the near ancestry. A bad cross two or three generations ago is as likely to crop up as any other, and it is no bad rule to be guided as far as possible by the progeny, if we can learn of these, of the sire we propose to use. Selection of sires must be continuous from generation to generation, for the time will never come when all the animals brought into existence will be equal to their parents. Some will excel them and some will not reach their standard. Great improvers of live stock are indeed few, and what we know of their methods leads us to believe that the most studious care was always given to the matings, endeavoring to perpetuate the good and overcome the undesirable.

### How to Grow Sugar Beets.

Whether through design or what is called good luck, it was certainly a fortunate circumstance whereby Dr. A. E. Shuttleworth, Chemist of the Ontario Agricultural College, when taking his supplementary course in agricultural science in Germany a couple of years since, found himself in the midst of one of the areas of that country where sugar-beet culture has been reduced to a science and is prosecuted with a degree of success attracting the attention of the world. Devoting himself to a study of the subject, both from the practical and the scientific point of view, he returned to Canada full of the theme and ready for the sugar-beet propaganda now under way. The campaign of investigation and education begun last year with most encouraging results, under his direction, in three districts, is being continued this season in some fifteen different areas of the Province of Ontario. In each of these some twenty-five farmers with soil and other conditions suitable are putting in a quarter of an acre each according to approved methods and under skilled direction, and which will likewise be cultivated and harvested under supervision and analyses made of representative samples by Dr. Shuttleworth, so that by next fall not only will a great deal of valuable experience be gained by the growers, but the general data as to sugar content of beets, purity and yield obtained will be of an extensive and thoroughly trustworthy character. Preliminary to the inception of these trials, Dr. Shuttleworth has gone from point to point addressing gatherings of farmers and others interested. At the London (Ont.) meeting he indicated the scope for the industry by stating that it would require the output of thirty large factories, valued at about half a million dollars each, to furnish sugar for Ontario use alone. With soil conditions and climate such as exist, and proper cultivation, there was no doubt about successful sugar-beet growing, which would not only prove an extremely profitable crop for the grower, but tend to improve the fertility of the soil, owing to the fact that sugar extracted little from the soil, and the tops, which were good food for milk, and the pulp for fattening stock, etc., were restored. Properly speaking, the manure should be applied to a previous crop and the land deeply fall plowed, so as to increase its moisture-holding power. A fine, mellow seed-bed is then secured by thorough spring cultivation, not more than three inches deep. The seed should be sown from April 20th to May 10th, on the flat, one inch deep, with an ordinary seed drill, in rows, say twenty-one inches apart, using sixteen pounds of seed to the acre. A drill set to sow one and five-eighths bushels peas to the acre would put in beet seed about right, with only every third spout running. To keep down weeds and break the crust, making a mulch and preventing evaporation of moisture, he recommended going up and down the drills with one of the "weeder." Thin after the third leaf shows, first "bunching" them with a hoe and then by hand, removing all but one healthy plant every seven inches. Scuffle or cultivate frequently, not more than three inches deep, using an implement with the harrow form of teeth, so that the ground will be kept flat, being careful not to mould up. Cultivate twice a week, and after every rain. By the middle of July the luxuriant tops, through which, by the aid of sunshine, the plant collects its sugar from the air, should completely cover the ground, and the cultivation is done. As the season advances, the leaves become a rich yellow, and droop, the under leaves dying. The beet is then ready to harvest, at an average weight of from one-half to two pounds each. The foregoing corresponds fairly well with the experience of successful Michigan sugar-beet growers, whose testimony we gave very fully in recent issues of the FARMER'S ADVOCATE.

### Provincial Legislation.

The Lieutenant-Governor prorogued the Legislative Assembly of Ontario on the 15th day of April, and at the same time gave his official assent to 112 acts which have now come into operation. We propose to refer only to those which mainly and directly concern farmers.

First on the list is *An Act respecting the Encouragement of the Sugar Beet Industry*. This question has been before the farmers of Ontario for many years. Readers of the reports of the Ontario Agricultural College will have seen reports of the growing and testing of beets during the past twelve or fifteen years. On several occasions the Ontario Department of Agriculture has provided seed for growing sugar beets, and the chemist at the College has analyzed them. The general conclusion was that in many sections first-class sugar beets suitable for the making of sugar could be produced in various parts of the Province. Mr. Robert Lauder, it may be remembered, was an enthusiastic promoter of the work, and did much to keep the question going. He died a short time ago, just as the agitation has taken firm hold upon some of the Central States. California, Utah and Nebraska had for years been producing sugar. Recently, however, New York and Michigan have taken up the work. In the former State the industry has had a somewhat uncertain experience, but in Michigan the growth has been extraordinary. The decay of the lumbering and milling industry has set free capital, and the presence of a population suited to the growing of the roots, are the main reasons for the extensive trying of the experiment. Last year the Ontario Department of Agriculture provided the means of conducting experiments at three localities—Aylmer, Welland, and Newmarket—and there has recently been published an exhaustive report in this work and an investigation into the working of the factories in Michigan. Dr. Shuttleworth, the chemist of the College, has had the supervision of the work, and to him has again been intrusted the experiments for the coming season. The Government concluded, from this investigation of the past year, that Ontario was ready for a sugar-beet campaign, and has passed an Act to encourage the industry. A fund of \$225,000 has been created. Out of this, factories are to be paid at the rate of one-half cent per pound of sugar manufactured during the first and second years, and one-quarter cent per pound during the third year. In order, however, that the farmers growing the beets shall be protected and benefited, it is provided that this grant is conditional upon the growers receiving at least \$4 per ton for all beets grown the first year, and during the second and third years, at the rate of 33½ cents per ton for every one per cent. of sugar above 12% which the beets contain. Thus, if the grower produces beets containing thirteen per cent. of sugar, the price will be \$4.33½ per ton; if the beets contain 14 per cent. of sugar, the price will be \$4.66½; if 15 per cent. of sugar, \$5.00 per ton. Not more than \$75,000 is to be paid out in any one year. The Act requires that all forms of contract between the manufacturer and the farmer must be approved by the Minister of Agriculture. All persons interested are recommended to apply to the Department at Toronto for a copy of the report of the experiments made in 1900. It may be interesting to give some statistics from a recent U. S. Consular report as to the extent of the past year's operations in the principal beet-sugar countries of Europe:

	No. of Factories	Acreage	Beets per acre	Per cent. of sugar in beets	Sugar production
			tons.		tons.
Germany	395	1,095,790	12.06	14.91	1,970,000
France	342	685,391	10.79	15.01	1,110,000
Austria	213	839,152	8.82	14.78	1,075,000
Russia	268	1,356,075	4.70	13.83	890,000
Belgium	106	170,128	14.47	12.92	70,000

A comparison of this table with results given in the report will show that Ontario appears to be well adapted to the growing of the roots.

The Department of Agriculture has arranged to conduct experiments at or near the following places during the present year: Watford, Simcoe, London, Alvington, Mt. Forest, Walkerton, Clinton, Waterloo, Dunnville, Cayuga, Peterboro, Lindsay, Whitby, Picton.

Good roads were the other agricultural subject that received special attention by the Legislature. Two Acts were passed: *An Act for the Improvement of Public Highways* and *An Act to Facilitate the Purchase of Toll Roads by Municipalities*.

By the first Act \$1,000,000 was set apart as a fund for road improvements. On or before Jan. 1st, 1903, any county council may by by-law designate the highways to be improved as county roads. The township councils are then to accept or disapprove of the plan. If one-third or more of the township councils disapprove, a by-law is to be submitted to the voters of the county, and if their vote is in favor of the county-road system, the roads to be designated as county roads are to be determined by arbitration. If the county council fails to take action, or if the vote of the ratepayers of the county is adverse, then a local municipality may apply for a portion of the grant. The basis of the division of the \$1,000,000 among the counties and townships is to be the assessed area of each municipality. All roads so improved are to be subject to the approval of the Public Works Department of the Province, and the Legislative grant is not to exceed one-third of the total amount expended. The money voted may be used in the purchase of toll roads or in the freeing of roads from tolls. Statute labor on roads