

The following names recorded first in the Annual Report of the Experimental Farms for 1906 were given to seedling varieties of Russian origin descriptions of which have not yet been published. These were among the best and apparently the hardiest of 2,000 trees. They have been sent to the prairie provinces for trial and should any of them prove promising descriptions will appear in the annual reports:—Arcola, Birtle, Boy, Bolton, Beaver, Bomba, Bison, Carlyle, Carman, Cicero, Cecil, Carrie, Crescent, Dauphin, Dewar, Earliana, Grenfell, Hanley, Hamlet, Harbinger, Jarvis, Jasper, Jacko, Lang, Leroy, Mentor, Melfort, Morden, Murillo, Morley, Nepigon, Osler, Otter, Pingree, Ponoka, Parma, Polaris, Roslin, Rawdon, Selkirk, Snelling, Solina, Sorley, Sanford, Souris, Selwyn, Vesta, Virgil, Varna, Virden, Wolburn and Wesley—53 varieties.

CONCLUSIONS REACHED IN REGARD TO ORIGINATING NEW VARIETIES OF APPLES.

(1). To produce a hardy apple where no apples have yet been found hardy: (a) Cross the apple with the wild Siberian Crab apple (*Pyrus baccata*); (b) Sow seeds of apples which have ripened in a climate as nearly similar as possible.

(2). To produce a hardy long-keeping apple of good quality: Sow seeds of long keeping varieties of apples of good quality which have ripened fruit and proved hardy in a somewhat similar climate, and when possible have both parents long keeping varieties.

(3). To produce an apple having certain characteristics, as regards hardness, vigour and productiveness of tree, and quality, size and appearance of fruit: Sow seeds of varieties having most of the characteristics desired.

(4). If seedlings are to be grown on a large scale, more varieties having the characteristics desired will probably be obtained if trees of several named sorts blossoming at the same time be planted in close proximity in the orchard, and the seeds used from fruit borne on these trees. The trees thus planted should combine all the good points in the standard aimed at, for the variety to be originated.

(5). In cross-breeding apples where quality is an important factor, as it should be in most places, cross two varieties which are both good or very good in quality. It has been the experience at Ottawa that in crossing a variety of good quality with one of inferior quality the crosses will nearly always bear fruit with quality inferior to the one with good quality.

SOWING THE SEED.

Apple seeds germinate best when sown in the autumn. If, however, it is not convenient to sow them at that time, they may be stratified; that is, mixed with sand, slightly moist, but not wet, and kept in a cool but dry place until spring. Seeds should not be sown in the autumn in soil which heaves much; better hold them over and sow them as early in the spring as the soil can be worked. If apple seeds become very dry they may not always germinate satisfactorily, and this should be guarded against. The seeds should be sown thinly, about 1 to 2 inches deep, in rows from 2½ to 3 feet apart. Or, if the quantity is small, beds may be prepared and the seeds sown in rows about 6 inches apart. If sown in the autumn, most of them should germinate the following spring and make a growth of from one to two feet that season. They should be transplanted the following spring into rows from 2½ to 3 feet apart, placing them 12 inches apart in the rows. The next spring they should be in good condition for planting in the seedling orchard.

PROPAGATION BY GRAFTING AND BUDDING.

When a good variety has been originated, more trees of it are usually wanted, and the process of increasing the number is called propagation. Plants which come true from seed, are, as a rule, increased by growing them from the seed; but as a