II.

NOTES AND APPENDICES.

NOTES ON THE SELECTION OF SEED PLANTS.

The number of Quebec growers who produce their own tobacco seed is yearly increasing. A few words of advice as to this practice may, therefore, be of some use. In previous publications, growers were warned against the degeneration that may result from growing seeds under bags, and explanations were given on the cleaning of floral clusters. It is now proposed to go a little further in the work of selection proper.

Successful selection requires a great deal of work, and work of a delicate nature. In the first place, one should carry an ideal type in his mind. A selection is made of the plants that come closest to this ideal, then other selections are made among the group first chosen, bearing in mind the qualities that one wishes to develop or the defects that are to be eliminated.

So many things are necessary in selection work that one should start as soon as the seedlings have taken root. A first selection is made of those seedlings that have shown themselves the best in this respect. Notes are taken on, say, 500 plants. Then a second choice is made, based on the vigour of growth. The plants that are first to reach their normal height and in which the floral bud appears the quickest will be kept.

With this method, the weak and sickly plants are naturally eliminated. It is obvious that plants blighted, yellowed, rusted or diseased in any way cannot be included with the strong plants that have just been selected. Furthermore, we know what is required in a plant that is to be topped. Now a selection is made of the plants possessing the type that it is desired to fix. Here begins the most delicate part of our work: the phyllotaxy or, in other words, the study of the leaf itself. Notes are made on the length of the internodes, the shape of the petioles, the ramification of the ribs, the distances between the main ribs and the manner in which these ribs end at the periphery of the limb. The shortest internodes should be chosen, as they give the greatest number of leaves, and preference should be given to those plants the leaves of which have the finest ribs, the most regular and the widest apart. The shape of the limb must be carefully studied; all plants whose leaves are wavy or sharp-pointed will be eliminated and only the plants with regular leaves, flat and as round-ended as possible will be kept. Next come the thickness and the texture of the leaves. Out of the 500 plants selected at the start about 200 can be kept for the production of seed. The methods of seed production are outlined in our bulletins No. 6 and No. 8, to which our readers are referred.

It will be seen that the production of tobacco seed is a tedious and rather complicated work. The method outlined here is the one followed on our experimental stations and by which we have produced at St. Césaire this year, 25 pounds of choice