

47

ALIEN PROPERTY CUSTODIAN

SEED-CULTIVATING OF NON WINTER-PROOF KINDS OF BEETS, AS SWEDE, FODDER SUGAR BEETS, RED BEETS AND THE LIKE

Béla Németh, Keszthely, Hungary; vested in the Alien Property Custodian

No Drawing. Application filed March 8, 1941

This invention relates to improvements in seed-cultivating of non-winterproof kinds of beets, as swede, fodder sugar-beets, red beets and the like.

The cultivation of the seeds of these non-winterproof kinds of beets is accomplished, as well known, from the mother-plant or from the seedling of the plant. This method of cultivation, however, is bothersome and expensive, as the mother-beet or seedling must first be cultivated, then it must be picked out, set or stored in cellars for wintertime and in springtime it must be planted again in considerably large row- and plant distances of from 20 to 30 in. The relatively small crop in seeds, amounting to from 6 to 8 cwts. per acre, is very expensive owing to the great amount of handwork required.

Hitherto the cultivation of the seed of non-winterproof kinds of beets directly from the seed was not possible as said method of cultivation requires the sowing of the seed in autumn and the plant developed before setting-in of the winter frost will become frost-bitten in such a degree that an economical cultivating is excluded.

The invention is based on the perception that the perishableness of the non-winterproof kinds of beets is due mainly to the low specific content of dry- (sugar-, protein-, etc.) substance of the autumnal plant and to the sudden variations of the temperature in wintertime caused by the frost and sunshine.

On the other hand, the kinds of beets having a higher specific content of dry substance, will not become frost-bitten, especially if protected against the destructive action of the sudden variations of temperature occurring in wintertime.

Several methods for attaining of the winterproofing of the plants are well known. With regard to the invention one of the most suitable methods consists in the gradual increasing of the plant's specific content of dry substance which can be attained e. g. by selection of the mother-plant or of the seedling throughout generations towards the higher specific content of dry substance.

The protection against the sudden variations of the temperature, however, can be secured e. g. by a deepened sowing. This is attained for example by sowing the seed in grooves drawn on the bottom of the furrows so that the neck-part of the plant-root will be held in shadow.

The method of seed cultivation according to the invention is built-up on the aforesaid perceptions and consists essentially in that cultivating the seed of said kinds of beets directly from the seed in such a manner that a seed yielding a

plant which is made winterproof in any known manner is shown in the latter part of the summer taking care to protect the plant growing up in the autumn against the destructive action of the suddenness of the temperature occurring in the winter frost and keeping the plant in the soil during the winter too until maturing of the seed crop.

The winterproofing of the plant will suitably be guaranteed by gradual increasing of the specific content of dry substance throughout generations by selection, whereas the protection against sudden variations of the temperature will conveniently be attained by a deepened sowing, that is to say by sowing the seed in grooves drawn on the bottom of the furrows and, if necessary, covering the grooves before setting-in of the frost.

In springtime the plants keeping through the winter are cleared suitably to a plant distance of from 15 to 20 in.

In the following the carrying out of the new seed-cultivating method will be described by way of example.

The seed of the beet cultivated from a seedling or mother-beet, having a specific content of dry substance got by selection and making it winterproof will be drilled in the time between middle of August and middle of September, suitably in a row distance of say 16 in. by deep sowing consisting in sowing the seed on the bottom of grooves drawn by a known groove-drawing hoe mounted upon the colter-beam of the drill. The groove can be covered by earth before the winter frost sets in, as, however, the rain generally will wash in sufficient earth from the sides of the furrows, this said covering can be omitted.

In springtime the seeding is cleared to a plant distance of about from 6 to 8 in. In all other respects the manner of treatment of the plant up to its complete growth and even afterwards is the same as that of the beet cultivated in the usual manner.

The seed cultivated in this manner cannot be used directly for seed cultivation but only for beet cultivation. This beet cultivation will be accomplished in the usual manner by sowing in the springtime. New seed is cultivated directly from the seed originating from the cultivated mother-beet or seedling according to the invention by sowing in the latter part of the summer.

Thus the seed cultivated by sowing in the latter part of the summer is cropped in July or August. This seed will be sown for beet cultivating purposes in the next year's springtime,

preferably already in March. The beet grown from this seed is fully developed in autumn (October). For producing of new seed the cultivated mother-beet or seedling will be selected accordingly, the seed from said selected mother-beet or seedling will be sown in the latter part of the summer and the crop will be harvested in the next year's summer.

The advantage of the method of seed cultivating directly from the seed according to the invention is at the first time that the costs of cultivation are reduced in a very considerably manner as instead of from 50 to 80 cwts. of mother-beet or seedling per acre required with the method hitherto used, only 32 lbs. per acre of seed suitable for sowing in the latter part of the summer are required with cultivating according to the invention.

A further advantage of the new method of seed cultivating is the increase of crop from the usual average of from 6 to 8 cwts. per acre to an average of from 12 to 17 cwts. per acre and even more.

An essential advantage is that by cultivating

directly from the seed the costs of keeping the mother-beet or the seedling during wintertime and the losses caused by damages also can be avoided.

5 An essential economical advantage is further that owing to the decrease of the row- and plant distance against the usual distance from 20 to 30 in. to a row distance of 16 in. and a plant distance of from 6 to 8 in. the area required for
10 the same amount of crop is half only of that required up to the present.

A further essential advantage is that the specific content of dry substance of the beet originating from seeds cultivated according to the invention is from 2 to 4 per cent higher than that
15 of beet cultivated with the usual method.

The beet originating from seed cultivated with the new method is further more resistant against root and other sicknesses than beet cultivated
20 by means of the old method and as the stalk of the plant does not shoot many branches the seeds are ripening simultaneously and can be harvested all at a time.

BÉLA NÉMETH.