

harvesting over longer periods. Cultivation should start as soon as the beets appear above ground and should be continued at frequent intervals in accordance with the weather and soil conditions throughout the growing season.

BY-PRODUCTS OF THE BEET SUGAR INDUSTRY.

In connection with the growing of sugar beets and the production of beet sugar there are several by-products which will undoubtedly be used to greater advantage in the future than they have been in the past. Three of the important by-products are here referred to.

SUGAR BEET TOPS. The yield per acre per annum of the sugar beet tops grown at the College by the Kleinwanzlebener variety in the average of twenty-one years has been 6.5 tons, or practically two-fifths of the yield of roots. According to Henry's book on "Feeds and Feeding" the following gives the fertilizing constituents per ton of sugar beet roots and of sugar beet tops:

Sugar Beets.	Fertilizing Constituents per Ton.		
	Nitrogen (Pounds).	Phosphoric Acid (Pounds).	Potash (Pounds).
Roots	5.2	1.6	6.4
Tops	8.4	2.0	12.8

It will be seen that the tops are much richer in fertilizing constituents than the roots of sugar beets when equal quantities are compared. It is exceedingly important to carefully retain on the land the fertility contained in the tops. As a rule the tops are ploughed in the soil. They are occasionally, however, fed green or in the form of silage. Caution should be used in feeding sugar beet tops as they tend to purge the animals, and, therefore, should be fed in limited quantities in conjunction with dry roughage.

SUGAR BEET PULP. Formerly, sugar beet pulp was fed when fresh in a limited way to farm stock in near proximity to the factories. More recently, however, the pulp has been dried, shipped and sold as stock feed.

LIME. A large amount of lime is used in the process of manufacturing beet sugar. At present this by-product is wasted. It seems a great pity that this lime could not be used for agricultural purposes. There is room for greater economy along this line.

CONCLUSION.

As sugar beets are grown with the definite object of sugar production, the growers of the beets and the manufacturers of the sugar should work in wholesome co-operation. The sugar manufacturers furnish seed of high quality at low prices, give directions regarding cultivation and offer to buy the beets under contract. Ontario farmers desiring to grow sugar beets should therefore, make their contracts before planting.