



SUMMARY

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DEVELOPMENTS IN SUGAR BEET GROWING IN THE NETHERLANDS

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the sugar yield averages about 9000 kg/ha or 9 ton/ha.

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Pelleted monogerm seed is used, harvesting is mostly done by contractors using self-

propelled six row harvesters

In The Netherlands a lot of attention is paid to minimizing the use of agro-chemicals,

fertilizers and organic manure and to tending the dirt care of the beet

Sugar beets are bought according to internal and external quality and the financial result

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SUMMARY.

With an average of 120.000 to 125.000 ha, sugar beet growing in The Netherlands is very important.

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The beet are processed in five factories, belonging to the two sugar companies.

Pelleted monogerm seed is used, harvesting is mostly done by contractors using self-propelled, six row harvesters.

In The Netherlands a lot of attention is paid to minimizing the use of agro-chemicals, fertilizers and organic manure and to lowering the dirt tare of the beet.

Sugar beets are bought according to internal and external quality and the financial result makes the crop very interesting for the arable farmer.

INTRODUCTION.

The Netherlands, which most of the world refers to as HOLLAND, always has been a country of intensive agricultural production. All over the world Dutch cattle are well known, different horticultural crops are exported to surrounding countries and Holland has earned the reputation of "the florist for Western Europe". Arable farming has become less important in The Netherlands.

The total area of The Netherlands amounts 3.4 million ha (\cong 8.5 million acres) of which about 60% (= 2 million ha \cong 5 million acres) is used for agriculture and horticulture. Of this 2 million ha, 55% is used for grazing livestock, 2% for pig and poultry production, 5% for horticultural holdings, 11% for mixed crops/livestock holdings and 27% of the area is used for arable farming. The total area for arable farming (\pm 600.000 ha \cong 1.500.000 acres) is mostly used for growing cereals, potatoes (seed, ware and starch potatoes) and sugarbeets.

SUGAR BEET GROWING.

Sugar beet growing is a rather new activity for Dutch farmers. After an unsuccessful start in the beginning of the 19th century, farmers got interested in the crop again in about 1860-1880. The first factories were built in the south-western part of The Netherlands, but in the following decades farmers in other districts also tried to grow the new crop. Nowadays sugar beet is grown all over The Netherlands and amounts to about 120.000 - 125.000 ha (\cong 300.000 - 312.500 acres). Beet are grown on a range of different soil types, from light sands to peat soils and heavy clays.

In The Netherlands a lot of attention is paid to increasing the yield and the quality of sugar beet. In the beginning of the century a good yield was about 32 t/ha (\cong 12 - 13 tons/acre). Recently an average yield of 56 t/ha (\cong 22,4 t/acre), a sugar content of 15.7 - 16.0% and a sugar yield of nearly 9000 kg/ha (\cong 3600 kg/acre) is quite common. In good years, like 1992, the average sugar yield exceeds 10 t/ha (\cong 4/acre). Of all European countries, The Netherlands has the second highest sugar production per ha.

SUGAR FACTORIES.

In The Netherlands there used to be a lot of small sugar factories. Nowadays we have 2 big companies, a co-operative, Suiker Unie with 3 factories, and the private firm Centrale Suiker Maatschappij (CSM) with 2 factories. About 60% of the Dutch sugarbeet crop is processed in the factories of Suiker Unie, the rest of the crop is delivered to CSM. Both companies have other interests. Suiker Unie deals with processing vegetables, onions, potatoes and so on; CSM (commodity dealer and food manufacturer) is playing an important role on the Dutch and international market for human foodstuffs.

The Dutch sugar factories are modern and have a daily slice³ capacity of between 12.000 and 15.000 tonnes. The beets are bought according to internal and external quality (see: D. Hoogerkamp: Payment of sugar beets according to quality).

NEW DEVELOPMENTS IN GROWING.

a. *Monogerm seed.*

The development of Dutch beet growing is similar to that in a lot of other countries. Until about 1960, the farmers used multigerm seed and spent many hours spacing sugar beets; weed control and harvesting was mainly done by hand, and delivery of the beets to the factory was time-consuming, hard work.

In the beginning of the sixties interest first started in the use of monogerm seed.

Nowadays 100% of the Dutch beet crop is grown from monogerm, pelleted seed. This has made it possible to grow sugar beet efficiently and with only a few hours of expensive labour.

b. *Crop protection.*

In crop protection there have been the same developments; expensive hard work replaced by modern machines which have a tremendous capacity per hour. A shady side of this development was the increasing use of chemicals. In the last few years many laws, rules and agreements have been enacted to minimize the use of pesticides, nematicides, fungicides etc. Dutch farmers are obliged to halve their chemical use by the year 2000, compared with the amount used in the period 1986-1990. By introducing low dosage techniques, more careful use of chemicals and a return to mechanical weed control we estimate, at least for sugar beet, that we can reach the goal.

c. *Fertilization.*

The use of fertilizers, animal waste and other organic materials, is a subject of intense interest for the Dutch government and other people who have a responsibility for a clean environment and a sustainable agriculture. In the last few years a whole flood of rules have developed to control the use of organic wastes, fertilizers, composts, etc. For example, there are rules to control the way the farmers spread the materials on the land and the period when this can be done. The main purpose of these rules is to achieve a situation in which the amount of minerals applied per ha is nearly the same as the amount taken away by the crop. In The Netherlands, where we have a very intensive farming system and a big pig- and poultry industry, mainly based on imported feedstuffs, it is difficult to reach this goal.

In our opinion sugar beet growing will not meet a lot of problems. The growers apply the right amount of fertilizers and, they are lucky that this crop extracts most of the very soluble minerals from deep soil layers. In most years the sugar beet crop takes up almost all the soil nitrate and pollution of the environment is nearly impossible.

d. *Diseases.*

In most districts of The Netherlands beet production is intensive. Many farmers have a rotation of beet once per 3 or 4 years on the same fields. In this situation there are many problems with soil-borne diseases caused by various nematodes. Another important disease, widely spread in the southern part of The Netherlands, is rhizomania. To control the diseases, tolerant/resistant varieties are being developed by the breeders of sugar beets.

e. *Mechanization.*

Most of the Dutch sugar beet crop is harvested by 6 row self propelled machines. Since most Dutch arable farms are small (30-80 ha \cong 75 - 200 acres), most of the machines are owned by contractors. The machines usually deliver work of good quality. Farmers and contractors pay a lot of attention to minimize the dirt tare percentage of the beet. Transport of dirt and cleaning the beets is becoming more expensive and it is expected that in the near future it will be very difficult to get rid of this soil (see: D. Hoogerkamp "Research on dirt tare in The Netherlands").

In The Netherlands nearly all sugar beets are transported to the factories by road; only a small percentage is transported by ship or train. The delivery of sugarbeets is organized by the agricultural staff of the factories.

f. *By-products.*

By-products make a significant contribution to the finances of the Dutch sugar industry. Most of the molasses of the Dutch industry is fermented in the Dutch alcohol industry, owned by the sugar industry. The by-products of the alcohol industry used to be sold as a component in concentrates for cattle feed. Due to a decreasing number of dairy cattle, the industry is forced to sell vinasses as a potash fertilizer to farmers. By doing this, the financial value of vinasses has declined. Most beet pulp is sold to dairy farmers. In the last few years research has been carried out to use pulp as a feedstuff for pigs. The results of this research are promising.

g. *Financial results.*

It is a difficult task to give a good impression of the economy of farming in The Netherlands. We have the impression that many people consider The Netherlands as the country of "milk and honey"; a country with rich farmers. It is a pity, but in the last few decades the situation has changed considerably. Dutch farming, just as in many other countries, is confronted with higher costs and lower prices. Thanks to a tremendous increase in labour productivity, farmers have succeeded in continuing their enterprises. On most arable farms, the owners will meet many economic difficulties. In The Netherlands in future we will have fewer farming enterprises. The agricultural

policy of the Common Market and the results of the GATT negotiations did not make farmers overjoyed. In the whole contest of arable farming sugar beet growing gives a good financial result. Due to the high yield and a well organized industry we expect sugar beet growing in The Netherlands to last forever, or at least for the foreseeable future.

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