



Prospects for the double-row system?

Labour costs account for an increasing proportion of the cost price of asparagus. On most farms, labour costs amount to over 50% of total costs. The constant rise in labour costs mean that growers have to think of different cultivation methods to remain profitable in the long term. One such method is the double-row system, which has been widely used in the south of France with good results. Two rows of asparagus are planted at the usual depth, about 15 cm apart. 8 to 10 plants are planted along one metre's row length. A bed about 60 cm wide is placed on top of these two rows. The distance between each bed is about 2.40 to 2.50 metres. This planting density allows approximately 35,000 plants to be planted in each hectare. The high density of plants makes it more difficult for the plants to

establish roots. They need more liquid and nutrients to be provided, which is why this planting system is often combined with drip irrigation. Growers must also pay more attention to disease control, as the high planting density leads to high foliar density in August and September, and the pressure of Botrytis and Stemphiliium disease in the plants increases as a result. High planting density improves labour productivity and leads to higher yields per hectare, thereby reducing the cost price per kilo. Varieties that easily produce thick stems, such as Grolim and Herkolim, do best in the double-row system.

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Asparagus and sugar beet

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Rhizoctonia: an assassin of asparagus plants

The fungal disease *Rhizoctonia violacea* is a well-known pathogen of various crops, including carrots, chicory, beet and alfalfa. Unlike their northern European counterparts, southern European asparagus growers greatly fear attack by this fungus. It attacks underground parts of the stems and the root system, eventually killing the plant.

The *Rhizoctonia* fungus thrives in relatively warm soils, at temperatures of 18 degrees Celsius or above.

The fungal attack often starts in individual patches of the plot, spreading a few metres each year, until some parts of the plot are completely dead. *Rhizoctonia* occurs more often on humus-rich, poorly

drained land. A *Rhizoctonia* attack often opens the door to invasion by various *Fusarium* fungi, sometimes making it difficult to distinguish between them. There is no adequate control for the fungus.



J. Ziegler / DLR Rheinpfalz

Europe's asparagus-growing area is not increasing

The European asparagus-growing area, dominated by white asparagus, has stabilised in the past few years after a period of rapid expansion. Around 60,000 hectares of land is currently devoted to the crop, at least 30% of this being in Germany. The main producers are Germany, Spain, Italy, France and Greece. About 15% of the total area in Europe is used to raise green asparagus. Most of this type is produced around Granada in southern Spain, followed by southern Italy and England. The marked expansion in acreage in Germany was mainly at the expense of the Spanish

sector, where land under cultivation fell sharply over the past decade. The expansion of acreage in Europe has stabilised, though improved cultivation techniques mean that production will continue to rise. The main reasons for stabilisation of acreage are the sharp rise in labour costs and the difficulty finding workers to harvest the crop. These problems may cause acreages to fall in the near future. We can therefore be cautiously optimistic about price trends over the coming years. Much could still be done to promote asparagus consumption in many

European countries. Germany leads the way in the consumption of fresh white asparagus, with approximately 1.4 kg per head, but the neighbouring Dutch consume only about 0.6 kg per head. England is an excellent role model for asparagus promotion, with outstanding work in terms of organisation, effectiveness and budget. The stabilisation of acreage and the market opportunities offer prospects for the future, and a conservative prediction points to rising prices.

Asparagus and sugar beet

What do sugar beet and asparagus have in common, you might ask. At first sight, nothing: after all, there is little that an arable crop par excellence and the queen of vegetables can share. But the more you investigate beet-growing, the more you see that there are points of contact and common features that can help us in the cultivation of asparagus. Sugar beet was originally a biennial plant. In the first year it forms a plant structure and a thick taproot in which sugars are stored as fuel for overwintering. In the second year the sugar beet produces its flowering stem and seeds. The concentration of sugars stored in the taproot of beets is so great that it is worthwhile harvesting them to refine sugar. Growers are paid according to sugar content: the more sugar their beets contain, the more they earn. As far as sugars are concerned, the same is true of asparagus. A high sugar content in late autumn means that the plant has plenty of fuel for the winter and to produce stems in

the spring. Both the sugar concentration in the roots and the absolute quantity of sugar are important: in other words, a large tank (large root system) can hold more fuel (sugar) than a small one. Beet-growers know that a wet, warm autumn does not usually produce the greatest sugar yields. Dry, cold weather is better as the plant then produces more sugar. They also know that applying fertiliser to sugar beet late in the season may produce a lot of leaf, but often results in low sugar yields, as does irrigation late in the season. Many of these aspects of cultivation can also be applied to asparagus, and science also tells us that a dry (fairly cool) autumn leads to higher sugar content than a wet autumn. Apple-growers also know about this phenomenon: cold nights and sunny days help apples colour up more quickly in autumn, and this is related to the sugar content of the fruit as well. But it is difficult to control sugar levels. They depend to

a small degree on cultivation techniques, to some extent on the land in which the crops are grown, but mainly on weather conditions in late summer and autumn. Research is being conducted into the role of sugars on various fronts, and scientific findings will help us understand this issue better in years to come.

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