FLAIR
CULTIVATION MANUAL
2020

Flevo Berry

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Flair: open the season with flavour

Plant variety rights number: 2007/1367
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Flair in a nutshell:

- Bright-red and glossy fruits
- The earliest junebearer, with a compact harvest pattern
- Fantastic sweet flavour with a pleasant aroma
- Highly suitable for direct sales
- The first fruits can be somewhat broad in shape
- Fruits are generally conical, a little elongated
- The open plant structure makes easy for fruit picking
- High percentage of class 1 fruits
- The optimal chill unit total is 1050 hours < 7°C
- Good blossom quality, even under cold conditions
- Strong against root diseases and mildew
- Extremely suitable for cultivation on ridges under foil tunnels
- Growing on substrate is possible, preferably using tray plants
- Delayed harvesting of ground crops is possible with waiting bed plants
- Fresh plants must be planted sufficiently early
- For a good yield, heavy, well-developed plants are required
- Insufficient nutrition will quickly lead to yield loss
- This variety requires more zinc.
- Keep an eye on excess manganese, iron and phosphate

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The variety

Flair is a very early variety with a compact harvest pattern; it originated from a cross-pollination in Flevo Berry's breeding programme. The variety combines its earliness with excellent flavour and a pleasant aroma. Farms that grow Flair for direct sales to consumers experience enormous willingness to repeat buy. It is fair to say that Flair has bags of flair.

Cultivation

Flair effortlessly produces lush foliage with long petioles. A heavy soil is therefore recommended, so that the foliage stays more compact. The soil must be fertile, with a good structure and without wet areas. Single-row cultivation on a foil-covered ridge is preferable.

Flair must be planted in good time to give the plants sufficient time to develop in autumn and establish sufficient flower buds. Root stimulants can be applied after planting.

Since the rhizomes are positioned on the high side, protection against drying out during winter frost is necessary. In addition, it is important that Flair accumulate sufficient chill hours, while not excessively exceeding the optimal number of 1050 to a maximum of 1200.

Good unobstructed nutrition in general requires a relatively large amount of attention with this variety. Extra attention must be paid to zinc levels, because a shortage of zinc will immediately result in yield loss. Particularly during the propagation phase, it is important to devote attention to nutrition. Damage caused by a shortage of nutrition in autumn can usually no longer be made up for in spring.

Sustainability

Part of Flevo Berry's vision is to develop strawberry varieties with excellent flavour, grown with respect for people and nature. Flair is not particularly susceptible to root diseases and mildew. Since Flair is sensitive to herbicides, chemical weed control is best avoided and a soil-covering foil should be used instead.

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Cultivation with overwintering in the soil

Plant ridges with foil

The most common way to cultivate Flair is in regular soil, in combination with a natural overwintering phase. The plants stay in the field throughout the cultivation period. The variety is nearly always grown on narrow ridges covered with black foil. The black foil is important for two reasons. It limits weed levels and it offers opportunities to advance cultivation in spring because the soil heats up more quickly.

In addition, the soil temperature also stays at a good level for longer in autumn. This allows the plants to grow heavier and go into winter with better developed potential trusses. Because Flair is sensitive to herbicides, soil sealing with black foil is a good alternative to suppress weeds.

Planting material, planting distance and planting time

Frigo plants, fresh plants and fresh plug plants can be used with this cultivation method. A planting density of 4.5 plants per m2 and a row distance of 1 metre are recommended. Flair makes rather long trusses, which is why one row per ridge is preferred.

Frigo plants tend to be planted as early as May or June. In practice, we also see farms that only start with frigo plants by mid-July, after a preceding crop of grain, for example. Even in this case, good results can be achieved.

Fresh plants preferably need to be planted before 7 August. However, some growers aim to plant in the last week of July, although availability of fresh plants at the end of July can be an issue. Planting early tends to generate the highest yield.

If plug plants are used, the planting time can be postponed until mid to 20 August at the latest.

Bridging the winter with an optimal chill unit total

Flair is mainly grown with a view to starting the season early. No other strawberry variety can be harvested earlier under natural conditions. Because of the advantage of their earliness, many overwintered Flair crops are covered with foil tunnels. High foil tunnels and portable tunnels, as well as small single-row tunnels, are used. Using only perforated foil or even fleece cloth is not recommended, because the flapping of this foil in the wind causes a lot of damage to leaves and trusses.

Flair's optimum cold requirement is 1050 chill hours < 7°C. With a higher chill hours total, slightly more earliness can be achieved, but exceeding 1200 chill hours is likely to negatively affect production levels. Under normal circumstances, the optimal chill unit total is easily achieved. Often too easily, in fact.

It is a well-known fact that at a chill unit total of more than 1200 hours < 7°C, Flair may produce excessively lush and vegetative growth, sometimes with very long petioles. This may result in the foliage opening during the harvest period, causing the fruits to be exposed to the sun.

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When the foliage opens, some of the fruits also end up under a layer of leaves, which in turn may negatively affect fruit quality. As a result of too much vegetative growth, an excessive chill unit total may also cause some of the flowers to fail to grow and the harvest to be smaller.

To avoid catching too much cold, it may be useful to build the tunnels at the end of autumn or early in the winter. If necessary, the plants can periodically be additionally covered with perforated foil or fleece if the optimal chill unit total is likely to be exceeded by too much.

However, a lack of cold will lead to a later start of the harvest and plants with excessively short petioles and flower trusses. The leaf surface is also reduced after insufficient cold during the winter, resulting in lower production. A realised chill hours total that does not deviate too much from the optimal chill hours total of 1050 hours < 7°C is essential for the best result of cultivation with Flair.

Late cultivation in the soil with waiting bed plants

As many consumers have proven to be true fans of Flair, it would be a shame if this variety were only available at the start of the season. This is certainly also true for growers who mostly focus on direct sales. After all, satisfied customers are more likely to return for repeat purchases and will also help with word of mouth advertising.

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With waiting bed plants, the harvest period of Flair can be extended by a few more months. These waiting bed plants must be of excellent quality, with sufficient formed flower buds. Nutrition on the waiting bed must also be at a good level from the start of cultivation. Once waiting bed plants are replanted after a period in the freezer, they will regrow very quickly. As a result, it is not possible to make up in the spring for any nutritional deficiencies that have accumulated during the autumn.

Waiting beds are preferably planted with 10 fresh plants or plug plants per m2. If possible, waiting beds should be planted first, even before the regular overwintering cultivation. When using bare root fresh plants, planting at the end of July is recommended. The plants must be able to enter the cold store with a large number of formed flower buds.

Late cultivation in the soil with waiting bed plants

In the freezer, the plants generally accumulate many more chill hours than is good for them in reality. As a result, there is a risk that some of the flower buds will be absent during regrowth. In order to still obtain sufficient yield from this crop, heavy waiting bed plants with many flower buds at the base are therefore desirable.

The waiting bed plants can be planted in the production field from the end of March until early May. Partly in order to obtain sufficient trusses from the plant, it is important that the plants be allowed to grow slowly. This crop is therefore best planted on ridges, covered with white-black foil, with the white side up. The white foil ensures that the soil remains relatively cool and encourages controlled growth as a result.

In this late production cultivation with waiting bed plants, a plant density of 6.5 plants per m2 is common. A single-row system is recommended, with a row distance of 1 metre. Needless to say, impeccable water supply is necessary for this fast-growing cultivation.

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Cultivation on substrate

Some growers with crops on racks under high tunnels choose to start the season early with Flair. These growers are usually also dependent on direct sales, which means that sales can start early. Another reason to plant an early Flair crop is because a second crop after it can be planted relatively early.

Growers often follow a Flair crop on racks with a crop of an everbearing variety such as Florentina or Favori. Another junebearer, such as Sonsation, is also an option after a Flair crop. By combining an early crop with a late crop of strawberries, the harvesting season in the tunnels can be extended.

Sometimes, Flair crops are planted on substrate in early August, straight into trays with 10 to 12 plants per linear metre of gutter. During winter, the trays are placed on the ground and covered to protect them against winter frost. This approach does entail risks, such as the substrate staying wet for too long or mouse damage.

A possible alternative is to place the trays in a so-called Hochstädter Damm. This cultivation system offers better protection of the plants against winter cold.

Tab. 2: Ertragsverhalten verschiedener Erdbeersorten in einer geschützten Stellagenkultur im Substrat

Sorte	Ertrag		Anteil Klasse I am Gesamt ertrag	Geamt-ertrag in kg/ lfd.m	Ernte-beginn >100 g/m	Ernte-mitte	Frucht-gewicht
	Hkl.1 in kg/lfd.m	Relativ					
Elsanta	**5,48 kg**	**100 %**	**77 %**	**7.08 kg**	**20.05.**	**01.06.**	**14,9 g**
Clery	5,26 kg	96 %	89%	5,94 kg	07.05.	25.05.	16,3 g
Flair	5,21 kg	95 %	92%	5,65 kg	03.05.	18.05.	15,6 g
12 Pflanzen/m, Pflanzung 20.08.2009, Kokossubstrat, kaltes Folienhaus, 36 Pflanzen							

Figure1: Research by Landwirtschaftskammer NRW

Another way to allow the trays with plants to overwinter is to freeze the complete trays and put them back on the racks in spring. This direct planting in August can result in a relatively high yield, provided that the overwintering has proceeded as desired.

Another method to harvest a substrate crop of Flair early is to plant tray plants as soon as weather permits in spring. Planting should preferably be done around the end of February, unless excessive frost is expected. In practice, we regularly see 14 to 17 tray plants being used per linear metre of gutter with this cultivation system. This is a fairly high plant number, but it does result in a significant number of kilos of fruits to pick.

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Early substrate cultivation with Flair

Soil, fertiliser and water

Compared to many other varieties, Flair's water requirement is relatively high. Not only the amount of water that is given requires attention, but the watering frequency is also important.

However, wet spots in the plot, often caused by structural deterioration, must be avoided. Flair does not like to get its feet wet as this leads to roots dying off, immediately followed by yield loss.

Apart from good soil structure, Flair does not have any other specific requirements regarding the soil type. Nevertheless, fertile and relatively heavy soils are preferable to light sandy soils. On heavier soil, Flair is easier to control and the foliage will remain compact. On lighter soil, the foliage will open earlier, particularly when the crop is in full harvest, in combination with high temperatures and wind. The evaporation and requirement of a Flair crop may sometimes exceed the absorption capacity. As a result, the leaves drop to the ground and barely come up again afterwards.

Flair's nutritional status must be kept at a good level at all times. The soil must be inherently fertile and the pH should certainly not exceed 6. In addition, fertilisation should be started fairly soon after planting in summer. If necessary, 'slow-release' fertilisers can be applied before planting. It is not possible to make up in spring for nutritional deficiencies caused in late summer and autumn.

Incidentally, Flair does not require much more fertiliser in total than other varieties, but the frequency with which the fertilisers are given should be a little more intensive. Using a small amount more often is better than a large amount less often.

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For Flair, keeping an eye on zinc (Zn) in the soil is absolutely necessary. In Northern Germany and Southern Denmark in particular, the natural zinc levels in the soil are often very low. Flair tends to gorge itself on zinc. A zinc deficiency will show up quickly. Making up for any deficiency in this regard afterwards tends to result in yield loss. In general, it is fair to say that Flair plant sap should ideally contain 3 to 5 ppm of zinc, although this is often difficult to achieve in practice.

picture: zinc deficiency

In addition to zinc, manganese (Mn) and iron (Fe) also require attention, simply because these three elements affect each other. Excessive levels of manganese and iron will limit zinc absorption. Excessively phosphate-rich soils are not recommended for the cultivation of Flair, because too much phosphate will inhibit the absorption of zinc, but also manganese and iron

Fungi and weeds

Flair is tolerant against most root diseases and strong against mildew. If the soil is in good condition and nutrition is in order, Flair will have hardly any problems with fungal diseases.

Flair is sensitive to herbicides. Try to limit herbicide use by using foil as a soil cover. If spraying is considered necessary, halve the amounts of agent used per hectare.

An overwintering crop, planted with Frigo plants. In winter, they are covered with single-row foil tunnels

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