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**New variety with potential
to replace Elsanta**

Sonata set to break Elsanta's dominance



Sonata packed ready for the auction in Hoogstraten in Belgium. Fruits are uniform, of good colour and appearance and sweeter than Elsanta. Photos: Philip Lieten

The dominant role played by Elsanta in the strawberry sector could finally be coming to an end with the introduction of a new variety Sonata (formally tested as 9802). Sonata was developed by Dutch researchers at Plant Research International (PRI) and has been tested on several sites from Southern France to Finland, and from the UK to Hungary. All results so far are very satisfying and show that Sonata has great possibilities.

The new strawberry variety, Sonata, was selected from the offspring of a cross between Elsanta and Polka. Elsanta was chosen for its firmness, tough skin, high production, large fruits, and generally good appearance, whilst Polka was selected because of its uniformity, productivity, good fruit setting and shape, and plant robustness.

The result of the crossing is a uniformly wide-shouldered and large conically shaped fruit. However, the main attraction is that it produces a much lower incidence of malformed fruit during the first and second pickings, which helps to simplify picking and sorting. The cross was made in 1990, and by 1994 there were 10 plants. In 1997 the decision was taken to see how it would perform in national trials. From 1998 to 2003 the results of national trials show that Sonata is a very interesting new variety and that it might be an improvement on what has become the industry standard, Elsanta. Most differences are rather small, but some are very obvious like the general better appearance and

the excellent fruit setting in all production systems. Whereas Elsanta often has problems with malformed fruit Sonata has virtually no malformed fruit under the same conditions. One researcher comments "Sonata is easier to grow".

Sonata differs from Elsanta by its larger sepals, which are also inserted deeper in the berry, and its lighter red colour. The quality of the flowers is excellent. Right from the start all flowers have an abundant production of pollen. This is a big contrast to Elsanta. In the continuous culture Sonata is slightly darker red and has a more rounded shaped.

Reduced labour

In all production systems Sonata has more or less the same production potential as Elsanta. By varying planting dates and improving fertilisation during the cultivation of tray plants, waiting bed plants etc it is likely that production can be raised. However, high production levels are not the only criteria for growers.

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Breeding



Flowers have an abundant production of pollen and fruit setting is good.

CHARACTERISTICS OF SONATA

Good appearance: virtually no mal-formed fruits

Abundant pollen production

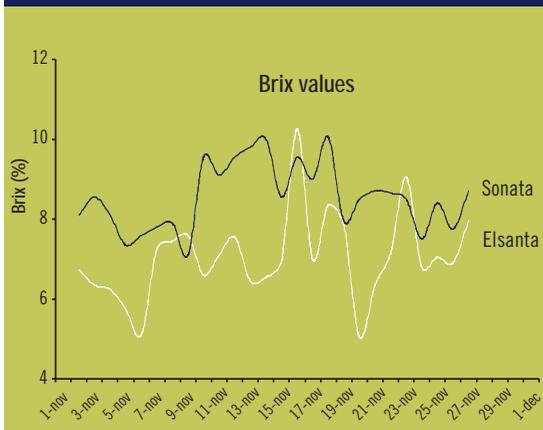
Excellent fruit setting

'Deeper, larger sepals than Elsanta

Weather resistant

Generally higher Brix (sweeter) than Elsanta

FIGURE 1: BRIX-VALUES OF SONATA AND ELSANTA



Labour is the biggest single cost for growers. Misshaped and rotten fruits still have to be picked. Any improvement that simplifies and speeds up the picking process can be very interesting for the grower. On a taste note, one grower comments that it is the reverse of Elsanta, Sonata is good at the start of the season, but tends to flatten out towards the end. In general Sonata has a higher Brix-value and also a better taste than Elsanta. Sonata is almost the whole season sweeter and juicier than Elsanta. Only during dark conditions in the (late) autumn does Sonata become light coloured and loses some of its flavour.

Fresh plants

In cultivations with fresh plants planted in August, Sonata is on average more productive than Elsanta with a more uniform fruit size and fruit shape throughout the picking season, with significantly higher levels of class I fruit. The mid-harvest date is roughly the same as that of Elsanta. Sonata is more winter hardy and therefore less prone to winter frost. In the spring the plant development is rather slow, but shortly before fruit setting the plants start to grow vigorously and develop a decent canopy!

60-Day culture

In the 60-day culture Sonata sometimes produces a heavier crop, which provides a good protection against sun burning of fruits, and as flowers tend to develop somewhat later Sonata is slightly less prone



Fresh plants of Sonata were planted in August and were harvested in June the following year. Hardly any malformation simplifies picking and sorting.

to night frosts. During 2003, outdoor trials showed that the variety can stand up well to a hot dry summer, as well as heavy July thunderstorms, when there was no fruit cracking. Again fruit setting of Sonata is a clear advantage as well its ability to maintain a uniform fruit size through the picking season in comparison with Elsanta. Furthermore, work highlights that overall Sonata fruit size is visibly larger, particularly towards the end of the season when Elsanta fruit size drops rapidly.

Greenhouse culture

Although a number of trials have been carried out, the experience under glass is still limited to a few growers, but nearly all of them are very enthusiastic and want to increase production. Most of these growers have only experienced Sonata on a couple of rows between existing Elsanta plants, meaning that the house climate, irrigation, and picking, were governed by Elsanta. It is likely that Sonata can grow better when grown under its own conditions although the optimum conditions are not yet known.

One grower who started with a few plants in the season 2000-2001, will switch over nearly completely to Sonata in 2005-2006, mainly because of reduced picking costs and a higher percentage of first class fruits. He revealed that it is important to maintain a higher humidity level in the glasshouse and also to give more potassium during harvesting. This grower also measured the Brix value every day for nearly four weeks. On average Sonata scored 8.55 and Elsanta 7.06, a difference of almost 1.5! As to production levels, this grower managed to yield 4kg/m² for autumn production, and 8.5kg/ m² for spring production in his glasshouse.

Susceptibility to diseases

It is too early to say if Sonata is less or more susceptible to diseases. So far it appears to be less susceptible to mildew than Elsanta, but that is often the case with new material. It is very likely that mildew will adapt to Sonata in the future. Tests with artificial inoculations with *Verticillium dahliae* and *Phytophthora cactorum* showed similar results to what was found for Elsanta. So far the number of available tray- and waiting bed plants has been limited, but from this year the number of plants will increase significantly. We introduced Sonata initially to a small number of growers but because most of these growers are (very) enthusiastic we are sure that more growers will want to start trying it. All tray plants have been sold for the coming season but for the season 2006-2007, new tray- and waitingbed plants have been planted and can be ordered. As Sonata is quickly becoming popular in Germany and Scandinavia nurseries are now producing large quantities of frigo-plants too. ■