



Crop manual Endeavour RZ

Endeavour RZ has a generative growing habit and a powerful crop that does not readily become too dense. The tomatoes are of a lovely quality and strong against splitting and the variety has robust green parts.

Variety traits

Truss tomato

Segment : truss, large

Resistances: HR ToMV:0-2/Ff:A-E/Fol:0,1/For/Va:0/
Vd:0

Average fruit weight: 140 – 160 g

- Extremely high production
- Early production and high autumn production
- Generative growing habit
- Open, neat and tidy crop with a lot of vigour
- Good continued growth
- Domed fruit type
- The tomatoes are firmly attached to the truss
- Robust fruits
- Nice, green truss parts
- Flat trusses
- Insusceptible to splitting
- Labour-friendly
- Grows nice and straight along the string
- Also suitable as a summer crop and may be continued for a long period of time

Plant raising

Endeavour is shown to best advantage when combined with a powerful, generative rootstock.

Growing the crop

Until just before the first picking it is advisable to use pre-midnight decreases, down to, for instance, 14 – 15°C. An adequate day/night differential during this stage of the crop leads to a more generative crop condition, the balance in the crop is achieved faster and the fruit weight will, therefore, be higher. Thanks to the generative growing habit, no extremely large day/night differentials are necessary from the first picking onwards. Strive for a day/night differential of around 3°C, say, and do keep using a pre-midnight decrease. Generally speaking, extremely low pre-midnight temperatures are no longer necessary from the first picking onwards. As soon as the plant has found its balance, the fruits grow heavy enough fairly easily. In case a higher fruit weight is nevertheless required now and then, a brief and deep pre-midnight decrease should be used.

The generative bent of the variety ensures easy fruit set into the bargain.

Extreme afternoon peaks are not necessary. Use the temperature to ensure that the plant is up to colour every afternoon. In early spring it should be up to colour as early as 3.00 pm. You prevent having to maintain the afternoon temperature for longer this way; it would only cost extra energy and it fairly quickly weakens the crop and the trusses.

A temperature example for spring: pre-midnight 14 – 15°C, towards morning 18°C; afternoon 21°C; from approx. 11.00 am plus a 2 – 3°C increase for light. Especially when there is little radiation, low pre-midnight temperatures are desirable. In light-poor conditions in spring a temperature of 17.5°C towards morning will suffice. A practical set point is, for instance, 17.5°C plus an increase of 1°C on the light sum.

From just before the first picking, the pre-midnight may be less deep and the increase for light during the day may be lower. If more generativity is required in that period, a greater day/night differential should be used temporarily by, firstly, using a lower pre-midnight and, secondly, perhaps a higher afternoon peak.

Adopting an extremely cool growing regime over a longer period of time in spring can lead to an undesirably high fruit load and is, therefore, not advisable. For an Endeavour crop, a growing method using too low temperatures also very quickly leads to a more vegetative crop condition, with heavier growth and lower fruit weights.

A point to note is that, although Endeavour comes into production early, in the summer it does keep more trusses on the plant than many other large truss tomato varieties. Thanks to this, the balance of

the crop is retained better and the autumn production is higher than that of many other large varieties.

Another strong point of Endeavour is its vigour, even with unwanted, high 24-hour temperatures in summer.

The optimal stem diameter is approx. 10.5 mm. If the stems are thicker, increase the temperature and if thinner reduce the temperature temporarily. The stems of Endeavour will not readily turn very purple. This makes the stem diameter, in combination with the head either getting flatter or not, plus the flowering height, a good indicator for assessing the crop condition.

The just-set fruits will not swell very quickly but especially during the last phase before harvesting the fruit weight does increase quite considerably.

Pruning advice

Up to 20 January prune everything at 4 fruits and from then on everything at 5 fruits per truss. Normally the crop will retain its balance easily, so that it will not be necessary so very quickly to prune at 4 now and then later on in the growing period. If the crop nevertheless does not appear totally balanced and the tips of the trusses are weaker, for example because of too high a fruit load or extreme outside conditions, this may be corrected effectively by pruning at 4 fruits for a brief period.

Truss treatment

Depending on the planting date, the advice is to treat 6 – 8 trusses. Bracing is easiest and has the lowest risk of spreading diseases.

Stem spacing

The optimal stem spacing is 37.5 cm. In the case of extremely generative growing conditions, 36 cm is possible. Endeavour possesses great vigour and stamina, so any closer is, therefore, usually not necessary. What's more, having the stems any closer together requires more work and there is every chance that productions will be lower due to lower fruit weights.



Endeavour does not have long foliage, but there is enough of it. Thanks to the sufficiently open and neat and tidy crop and the crop length it will not be necessary very quickly to take an extra leaf out of the head early on in the cropping period. However, if growth in spring is robust, doing so could prove useful the odd time. In autumn, there is usually more growth again and in most cases it is advisable to regularly take a leaf out of the head. If continuing the crop till well into December it is also good to keep the crop more open by taking out an extra leaf. A sufficiently open crop in autumn gives stronger trusses and a nicer fruit quality, stronger green parts and higher fruit weights.

Feed

Endeavour requires generous quantities of water at times of high radiation. At other times the demand for water may be classed as 'normal', so let the amount of water depend very strongly on the amount of light.

When, at the end of the cropping period, ethrel is used to finish ripening of the tomatoes it is still necessary afterwards to keep watering. Stopping watering too soon after this treatment could lead to moisture being extracted from the fruits.

Aim for 8 mmol potassium in the slab analysis. This enhances optimal colouring of the fruits. The large fruits mean quite a load for the plant, so keep the magnesium value in the substrate at 4.5 mmol at least.

Always make sure you offer sufficient feed. If recirculating, aim to have at least 2/3 of the irrigation EC consist of fresh water, with the correct nutritive elements.

At the start of the growing period have the water EC at 3.5 – 4.0 and then gradually reduce it to 3.0. In line with the light, a decrease for light of 0.2 – 0.3 is

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possible from early May onwards, with the slab EC always staying at 4.0 – 4.5 at least. Should the slab EC drop below these values, reduce the figure allowed for light and increase the basic irrigation EC.

Virus

By growing the crop as described above, i.e. with sufficient heat, no extremely low pre-midnight temperatures and sufficient feed, very little or no blotchy colouring and/or PepMV print occurred in the practical trials of 2010. When grown with considerably lower realised temperatures, PepMV symptoms were at times visible on the fruits. Do not, therefore, take striving for savings in energy and fertilisers to extremes.

Crop protection

Endeavour does not have mildew resistance, which is why a preventive treatment with, for instance, sulphur burners is advisable (if allowed). Given timely correction when mildew is detected, mildew may, generally speaking, quite successfully be kept under control in an Endeavour crop without the need for too many treatments.

Because the fruits are not very quick to swell once they have set, piercing of the small fruits by macrolophus can lead to a type of corky spots on the fruits. This is the reason why the macrolophus population should not be allowed to grow too plentiful.

Quality

The tomatoes Endeavour produces are very strong against splitting. This was once again confirmed in the summer crop of 2010 and in continued crops in 2011. Without needing any measures, such as higher picking frequencies or letting greener-picked fruits ripen further, this makes Endeavour a variety with an exceptionally reliable quality and a lower labour requirement.

Crop advisors Rijk Zwaan, January 2012