# Scotts Strawberries fertilisation in the Benelux

*1) Strawberries - Soil Grown Crops*

**Mother Plant Culture**

- For fresh and cold stored runners, "SEE" (Dutch accreditation) virus free stock or "EE" (Dutch accreditation) stock is planted in spring (normally March) in rows at 30cm spacing with x cm between rows.
- Fertiliser (Agroblen) is row applied into the soil 5cm either side of the plants using application
- Fresh runners are lifted in August, growers expect around 15-20 saleable runners per mother plant at this time. These so called 'fresh plants' are planted on waiting bed (see 'waiting beds') or for production crop directly (normal culture in open field or on peat)
- Runners for cold storage remain in the fields until December when between 35-40 saleable runners (winter runners) in a range of grades are expected.
- These winter runners are graded A+, A & B. The A+ grade is mostly used in fruit production in Belgium in peat.
- Depending on when the crops of runners are to be lifted, different longevity Agroblen products are used.

**Agroblen Fertilised Crops**

**August Lifted**

| Analysis | Longevity | Rate/Plant | Rate/Ha |
|---|---|---|---|
| 18+5+13+3MgO (Red) | 3-4 month | 11-12gm | 200kg |

**Autumn / Winter Lifted**

| Analysis | Longevity | Rate/Plant | Rate/Ha |
|---|---|---|---|
| 15+9+11+3MgO (Brown) | 5-6 months | 12-13gm | 250kg |

**Waiting Beds (Plant Production)**

Waiting beds are a strawberry production system peculiar to Holland. They provide a method for programmed production of strawberries from late spring to early autumn. The variety used is Elsanta (short day-varieties the same as the so called June Bearers).

- At the plant raiser, 'fresh plants' are planted in August with four rows per bed with a x cm spacing between rows and x cm in the row (100,000/Ha).
- It is essential that these plants are given effective, regular, light irrigation to minimise planting stress and keep transpiration to a minimum.
- Agroblen is row applied below soil level 5cm from the plants. This form of fertilisation is most effective because of the high water usage.
- The plants, which have developed into multi crown plants, are lifted in December and placed in cold store for use as production plants the following year.

## Cooled house store culture (Fruit Production with short day varieties)

- Only light soils are suitable for waiting bed production coupled with a very efficient overhead irrigation system. If these conditions do not apply, do not attempt to grow waiting bed plants.
- Plants are removed from cold store and field planted in double rows x cm in the row and x cm between rows.
- Agroblen is row applied below soil level at 5cm distance from the plants.
- Irrigation is applied regularly (misting) until the plants are established.
- The time from planting to cropping varies with weather conditions but is normally within 60-90 days.
- The total plant density is 35,000/Ha from March till the beginning of July, normally every three-two weeks planting to spread harvest.

### CRF Fertilised crops

- **Waiting bed (Plant Production) --- Agroblen Fertilised Crops**

| Analysis | Longevity | Rate |
|---|---|---|
| 18+6+12+3MgO | 2-3 month | 3gm/plant (300kg/ha) |

- **Cooled house store culture (Fruit Production) --- Agroblen Fertilised Crops**

| Analysis | Longevity | Rate |
|---|---|---|
| 18+6+12+3MgO | 2-3 month | 10-14gm/plant (350-450kg/ha) |

### WSF Fertilised crops

- **June Bearers (Cooled house store culture and Normal culture)**

The post planting/establishment feeds should only be applied if there is less than 60kg N per ha.

| Growth Phase | Period | Product | kg/ha/week |
|---|---|---|---|
| Post Planting(Normal culture) | August/September | Agrolution® 313 | 35kg |
| Establishment | September/October | Agrolution® 313 | 35kg |
| | *The above rates are plus or minus 5kg/week/ha* | | |
| | *The following rates are all plus or minus 10kg/week/ha* | | |
| Spring Growing(Cooled house store culure planting) | March/May | Agrolution® 313 | 75kg |
| Flowering | May/June | Agrolution® 313 | 75kg |
| Fruiting | From June | Agrolution® 316 | 75kg |

- **Ever bearers(day neutral varieties)**

*The Spring growing feed should only be applied if there is less than 65kg N per ha.*

| | | | |
|---|---|---|---|
| Spring Growing | April/May | Agrolution® 313 | 35kg |
| | *The above rate is plus or minus 5kg/week/ha* | | |
| Flowering | June/July | Agrolution® 313 | 80kg |
| | *The above rate is plus or minus 10-12kg/week/ha* | | |
| Fruiting | Aug./Sept. | Agrolution® 316 | 65kg |
| | *The above rate is plus or minus 10kg/week/ha* | | |
| Fruiting | From mid Sept. | Agrolution® 316 | 45kg |

*The above rate is plus or minus 6-7kg/week/ha*

## *2) Strawberries - Substrate Culture*

- This method of culture is now well established in Benelux and, in recent years, has become more common in the Italy and UK. It is important that only the best quality peat is used in strawberry bags and buckets. Use of what is generally referred to as "white peat" that is younger fibrous fractions of moss peat, is necessary to maintain a well-aerated medium.
- Normally only a light lime addition is added, particularly when water supplies are "hard", of 1.5kg/$m^3$ of magnesium limestone. If water is very soft a higher magnesium limestone inclusion may be necessary. A maximum of 0.5kg/$m^3$ of a base fertiliser "PG-Mix"(12+14+24) is sometimes included but is not strictly necessary.
- 10 litre bags or 7 litre buckets are the units used. June bearers are planted 4 or 6 plants respectively to a unit, Ever bearers 1 or 2 to a unit. One irrigation dripper is inserted in the centre of the bag or bucket.
- June bearing crops are normally planted in August using waiting bed plants or cold stored runners of A+ grade (Dutch standard). One crop is taken through the autumn. The plants are allowed to chill for x months by opening the glasshouse after the first crop has finished. The House is then heated again to bring on the spring crop.
- Ever bearers are planted in March/April, with 1-2 plants per unit. High temperatures depress the flowering of Ever bearers so it is important to be able to cool houses effectively.
- Use of Agrolution will help to reduce the bicarbonate level of the water. Both formulations 313 (14-7-14-14CaO-Tr.) and 316(13-5-28-2Cao-Tr.) also contain calcium, an additional advantage, particularly in soft water areas. If the bicarbonate level is above 150ppm it may be necessary to use additional acid to reduce the bicarbonate further. With very hard water the quantity of acid necessary to achieve the optimum level of bicarbonate (60-100ppm) may distort the nutrition of the plants if Nitric acid is used without taking its effect into account in the feed programme. Scotts advise that a water sample is obtained before a culture starts. Please seek our advice or phone us if you are uncertain of the correct quantity and type of acid to add to achieve the required effect.

**CRF Fertilised crops**

- **June Bearers --- Osmocote® Fertilised Crops**

| Analysis | Longevity | Rate |
|---|---|---|
| 15+09+09 | 12-14 month | 7kg per $m^3$ |

Additional feeding may be required the following spring - if the EC drops below 1.2 use Agrolution 313 @ 1gm/l

- **Ever bearers --- Osmocote® Fertilised Crops**

| Variety | Analysis | Longevity | Rate |
|---|---|---|---|
| Evita | 15+10+12 | 5-6 month | 3kg of each |
| | 16+8+12 | 8-9 month | per $m^3$ |
| Rapella | 15+10+12 | 5-6 month | 2.5kg of each |
| & Selva | 16+8+12 | 8-9 month | per $m^3$ |

Additional feeding is not necessary if the correct rate of Osmocote is used

**WSF Fertilised crops**

- **June and Ever bearers ---- Agrolution Fertilised Crops**

| Growth Phase | Product | Application rate Final Feed | Per 1000 Litres @ 100:1 |
|---|---|---|---|
| Starter Feed(two weeks) | Agrolution® 313 | 1.3gm/l | 130 kg |
| Vegetative Growth | Agrolution® 313 | 0.65gm/l | 65 kg |
| | + | + | + |
| | Agrolution® 316 | 0.65 gm/l | 65 kg |
| Main Feed (Fruiting) | Agrolution® 316 | 1.4gm/l | 140 kg |

**Rooted Tip Culture (Tray Plants)**

- Plants produced from rooted tips are mainly used for bag and bucket grown crops.
- Tips are taken in July from "EE" grade mother plants and placed in cell trays 12's or 24's.
- A 100% peat based medium is used, manufactured from white peat.
- Osmocote® Plus is used for base fertilisation.
- Plants are kept in the trays until late Autumn and transferred to a cold store until required for planting in August

| Product | Analysis | Longevity | Rate/$m^3$ |
|---|---|---|---|
| Osmocote Plus | 15+10+12+3MgO | 5-6 month | 6-7kg |

Alternatively, crops can be fertilised with 75% of the Osmocote rate above and fed with Agrolution 313 at 1gm per litre in the final feed 1 x each week

For more information please contact

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