Thuja occidentalis ‘Smaragd’

Crop Cultivation Sheet

ICL Specialty Fertilizers

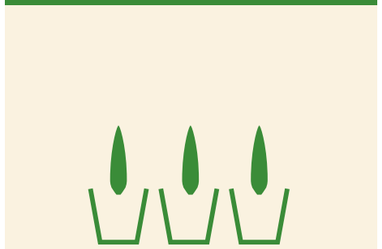
www.icl-sf.com

Thuja occidentalis 'Smaragd'

General information for cultivation:

Thuja occidentalis production in pots can be divided in two main branches: a culture that is fully grown in pots and a culture where field-grown Thujas are transferred into pots for the finishing stage. The advice in this crop sheet applies to the pot culture. Total cultivation time from cuttings to sellable plants is 2-3 years.

STAGE 1: Cuttings and young plants



Cuttings are ideally made in late September – October. Also possible between February – March. Artificial day length can stimulate quicker rooting during wintertime.

STAGE 2: Vegetation

Most important during this stage is the development of the roots and branches. Don't focus too much on length.

STAGE 3: Finishing (>C3 l)

High quality young plants are the basis for high quality at the end of culture. Be careful when pruning during the final stage: don't take out the apex.

Cultivation cards:

Growing medium and water

- Thuja occidentalis 'Smaragd' requires soil pH around 5.0-5.3.
- Ensure constant moisture in the growing medium (no excesses).
- Use a substrate that has good re-wetting and de-watering properties for strong root development. Rooting is a crucial phase for Thuja. During this phase the crop is sensitive to EC peaks.
- Also be careful with high amounts of urea.

Starting phase

- After potting, the goal is to ensure root development.
- Control the EC levels in the pots (maximum 0.5mS during this stage).
- For winter pottings we don't recommend the use of a water soluble compound starter fertilizer. Only use Osmocote Exact.
- Recommended nutrition is a base rate of Osmocote Exact Protect or Osmocote 5 (see next page).

Growing phase

- Once the plants have rooted successfully, increase the fertilizer amount in the culture.
- Take care to keep the EC low (0.5) during the first 3 weeks after potting.
- Plants are mainly grown outdoors, so ensure a good base of Osmocote Exact is mixed into the growing medium.
- Main growth happens in late spring and September (November in southern countries).
- Target EC in the pot around these growth periods should continuously be around 1.0 mS/cm. Thuja occidentalis 'Smaragd' does not grow very fast.

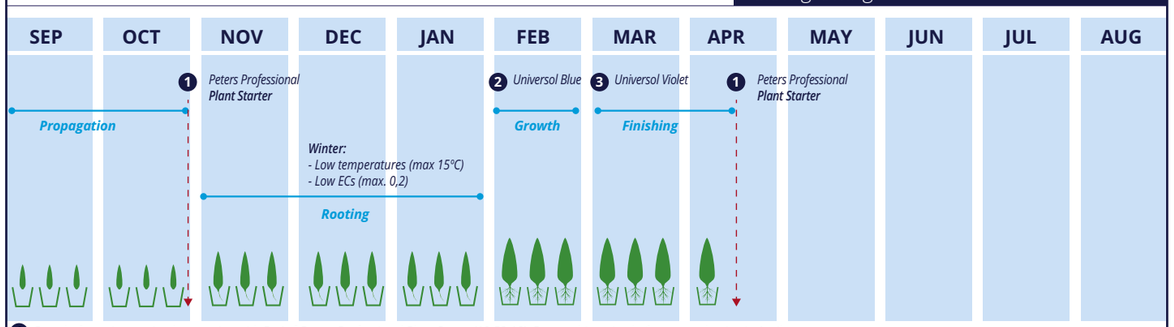
Finishing phase

- Shape, strength and depth of green color add value to the plant's quality.
- Focus nutrition during the finishing stage on high K schedule (N:K ratio 1:2).
- Ensure high amounts of magnesium as well, via water soluble fertilizers.
- We don't recommend foliar feeding, because of the high amounts of ureum. Thuja occidentalis 'Smaragd' is senisitive to urea: it can cause tip burn in combination with high irradiation.

Recommendations for cultivation

Cuttings | 104 cups/tray

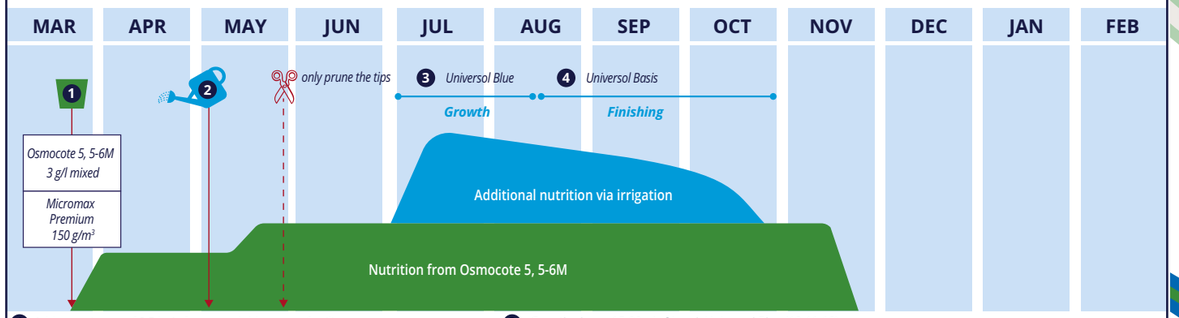
Thuja occidentalis 'Smaragd'
slow growing



1. Once before winter: stimulate rooting with 5 g/m² Peters Professional Plant Starter(10-52-10). Repeat this action before transplanting in April.
2. Growth boost: Universol Blue (18-11-18) 10 g/m² (maximum 2x in 14 days).
3. Finishing: Universol Violet (16-5-25) 10 g/m²/week.

Young plants | P 9 cm - P 11 cm

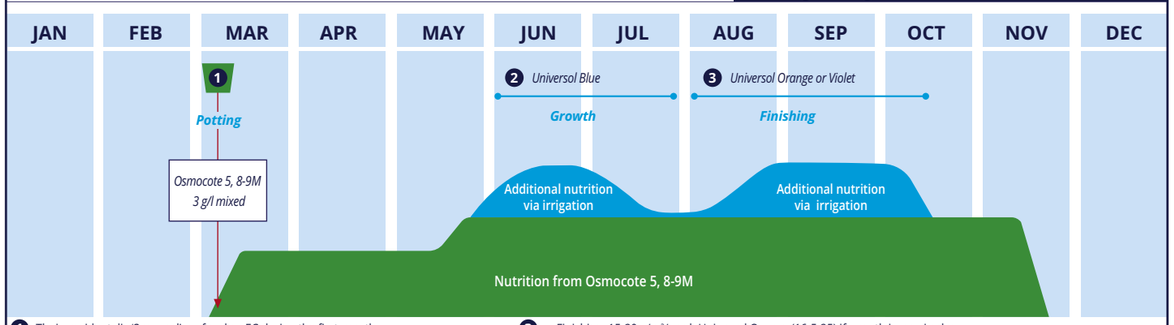
Thuja occidentalis 'Smaragd'
slow growing



1. Add a maximum of 0,5 kg/m³ water-soluble starter fertilizer.
2. Activate roots: Peters Professional Plant Starter (10-52-10) 0,5 g/l drench application.
3. Growth phase: 15-20 g/m²/week Universol Blue (18-11-18).
4. Plant Finishing: 15 g/m²/week Universol Basis (4-9-35) for strength and color.

Finishing stage | C3 L pot (or larger)

Thuja occidentalis 'Smaragd'
slow growing



1. Thuja occidentalis 'Smaragd' prefers low EC during the first month. Add a maximum of 0,5 g/l starter fertilizer.
2. Growth phase: 20 g/m²/week Universol Blue (18-11-18).
3. Finishing: 15-20 g/m²/week Universol Orange (16-5-25) if growth is required ***or*** 15-20 g/m²/week Universol Violet (10-10-30) for finishing (without additional growth).

For a tailored advice for your situation, please contact your ICL Specialty Fertilizers advisor. As circumstances can differ and as application of products is beyond our control, ICL Specialty Fertilizers cannot be held responsible for any negative results. Before a new rate, product or application method is used, a small-scale trail is recommended.

Cultivation notes from our specialists

Tips & Tricks

Thuja occidentalis 'Smaragd'

- The quality of the plants is heavily influenced by the starting material you use. Start with high quality young plants: strong roots, uniformity in design and good branching.
- Be aware that this crop is mainly propagated using cuttings, during the 'dark' months of the year. Cuttings require lower soil temperatures (Dec-Jan 14°C | Feb 16°C | March 17-18°C). In higher temperatures, callus production can be limited!
- As opposed to some other Thuja occidentalis cultivars, Smaragd is not a massive grower. Therefore it is important to limit the application of water and fertilizers. Separate Thuja occidentalis 'Smaragd' on your nursery from for example Thuja occidentalis 'Brabant', because of their different needs.
- Take note of these tips to avoid salt-sensitivity during the rooting phase:
  - Avoid excesses in amounts of water and nutrition during the first months after potting.
  - Ensure the growing medium in the pots is constantly moist.
  - Balance the (greenhouse) climate as much as possible. Avoid peaks in humidity and temperature (see next item).
  - Apply balanced nutrition during every crop stage for healthier plants.
  - Two weeks and one week before transplanting: apply Peters Professional Plant Starter (10-52-10) to stimulate roots.
- Thuja occidentalis 'Smaragd' is sensitive to specific insects and diseases: implement a tight (mainly) preventive protection schedule to avoid these.

Thuja occidentalis 'Smaragd' is mainly grown outdoors. If the plant is strong (hard) by wintertime, it usually resists winters very well.

Crop Protection

Thuja occidentalis 'Smaragd'

Thuja occidentalis 'Smaragd' is very sensitive to several pathogens and diseases:

Sciara
Can occur during the cutting period, especially because this crop takes a few months to root. The quicker roots are developed, the less problems.

Aphids
Mainly occurs on branches of older plants during springtime. Take care: these aphids are difficult to recognize.

Wine Weevil (Othiorhynchus sulcates):
Take preventive actions to avoid larvae in the pot.

Twig diseases (Dydimella, Pestalotia, Kabatina):
Take preventive actions during the entire culture (chemical, but also to avoid stress around pruning periods).

Everris International B.V. (UK, Netherlands, Germany) is certified according ISO - 9001. Everris International B.V. Heerlen is also certified according ISO – 14001 and OHSAS – 18001. Everris International B.V. is a legal entity under ICL Specialty Fertilizers.

ICL Specialty Fertilizers
P.O. Box 40
4190 CA Geldermalsen
The Netherlands
Tel.: +31 (0) 418 655 700
Fax: +31 (0) 418 655 795
Email: info@iclsf.com
www.icl-sf.com

ICL Specialty Fertilizers