



## Multicote™ Agri - an ideal source of boron for Eucalyptus

Boron (B) deficiency is a common problem in eucalyptus plantations. The boron is vital for several metabolic processes in the plant, growing parts such as shoots and root tips. Insufficient concentration of boron in the soil may result in:

- Impaired growth and broken stems.
- Death of shoot tips, leading to multiple lateral branches (bush-like shape).
- Reduced lignification of the wood that may cause weeping of branches.

On the other hand, excessive boron in the soil is toxic and may harm plants.

Application of boron fertilizers has become a common practice in intensively managed plantations, aiming to prevent boron deficiency and its unwanted outcomes.

Multicote™ Agri controlled release fertilizer is an ideal source of boron for eucalyptus, designed to release boron to the soil at a rate that matches growth requirements, while avoiding potentially toxic excesses. Multicote™ Agri requires only single application, thus saving labor compared to conventional fertilizers that require 2-3 applications annually.

### Suggested application rates:

B concentration in soil (hot water extraction) (mg/l)	< 0.2	0.2-0.4	0.4-0.6	0.6<
B application rate (kg/ha)	4.0	3.0	1.0	-

Apply coated boron at planting. Additional application is required only if deficiency is noted.

Contact Haifa representative to identify Multicote™ Agri formula most suitable to provide your plantations' boron requirements.



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# Multicote™ Agri

## Ideal Nutrition for Forest Trees

- The most efficient nutrition
- Optimal growth at the nursery
- Outstanding plant establishment, ensuring a high survival rate
- Single application with up to 16 months of fertilization: significant saving on labor, and application recourses
- On-demand nutritional composition, and release profile: ultimate flexibility for best results

 For more information:  
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**Haifa Chemicals Ltd.**



 **Haifa Chemicals Ltd.**  
Pioneering the Future





An accurate nutrition is essential for increased height and stem diameter of forest trees. At planting time and during the initial year of the trees is even more so.

Haifa's Multicote™ Agri is an advanced controlled release fertilizers, designed to feed forest trees over months, boosting growth and eliminating mortality of young plants. With maximum flexibility in nutritional composition and release profile, Multicote™ Agri is an ideal solution for any plantation. Based on Haifa's polymer coating technology, Multicote™ Agri releases nutrients to the soil in a gradual manner, according to plant's requirements. This prevents leaching of nutrients, thus improving nutrient use efficiency and allowing reduced application rates.


Application of Multicote™ Agri has become a common practice in forest trees nurseries and plantations worldwide, offering benefits of superior growth results and simple management: only single application of Multicote™ Agri at planting is needed to feed the young plants continuously over months, enhancing establishment and considerably improving survival rates. As no repeated applications are needed, Multicote™ Agri helps overcoming the problem of manpower availability in the huge forest regions.

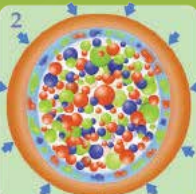
Haifa's Multicote™ Agri offers a whole range of solutions to suit optimal nutrition for plants grown under diverse conditions. Our nutritional solutions ensure better growth, minimized environmental impact, convenience and cost-effectiveness.




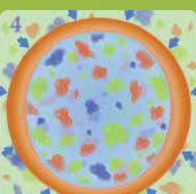
## How Multicote™ Agri works


- 1** **Multicote™ Agri** is based on polymer-coated fertilizer granules. During the production process, water-soluble nutrients are encapsulated in a polymeric shell. This shell prevents the immediate dissolution of the fertilizer when applied to the soil. The thickness of the shell determines the longevity of nutrients release.


- 2** Following application, soil moisture slowly penetrates through the coating. This moisture starts a gradual dissolution of the nutrients inside the granule.


- 3** The dissolved nutrients diffuse through the coating to the root zone, providing the plant with available nutrients at measured portions – according to its growth needs. The rate of diffusion – the actual release rate depends upon and is dictated solely by the soil temperature. The release rate increases as temperature rises, just as happens with plant uptake rates. Other factors, such as soil type, humidity, pH, and microbial activity do not affect the release rate.


- 4** While nutrients are released to the root zone, further penetration of moisture dissolves more of the solid fertilizer. At a certain stage, the entire content of the granule is dissolved, ready for diffusion and release. From this stage the release rate slows down.


- 5** After the release is complete, the empty shell ruptures and degrades, leaving no residues in the soil.



## Fertilizer formulae that meet the needs of your trees

To enable the production of a wide variety of nutritional compositions and release profiles that optimally match the nutritional program to crop requirements and growth conditions, Multicote™ Agri formulae combine several components. The following table lists the components available when composing a Multicote™ Agri formula.

Product	Longevity (months)
MAP	Uncoated, 2, 4, 8
Potassium nitrate	Uncoated, 2, 4, 6, 8, 12
Urea Granular	Uncoated 2, 3, 4, 6, 8, 12
Urea Prills	Uncoated, 2, 4
Magnesium sulfate	Uncoated, 4
NPK 15-7-15+2MgO+ME	2, 4, 6, 8, 12, 16
NPK 14-14-14	2, 4, 6, 8, 12, 16
Boron Granular	Uncoated, 4, 8, 12

## Soil temperature and release longevity

The rate of nutrients release from the coated granules is affected by soil temperature: higher temperatures increases release rate, to suit higher demands of the plant. The following table shows release longevity according the soil temperature.

Range	15°C (60°F)	21°C (70°F)	30°C (86°F)
Multicote™ 4	6 months	4 months	2 months
Multicote™ 6	7-8 months	6 months	3-4 months
Multicote™ 8	9-10 months	8 months	5-6 months
Multicote™ 12	15-16 months	12 months	7-8 months
Multicote™ 16	20-22 months	16-18 months	9-10 months