

Large Stock Seedlings and Beaver Plastics' Copperblock™ Container



Copperblock-grown lodgepole pine seedlings destined for rehabilitation planting in Jasper National Park. "These trees will be growing for a long time in our national parks."

Al Nanka of Canadian Forest Service Greenhouse

Are you responsible for establishing trees for seed orchards or landscaping? Do you grow large stock seedlings? Gain a competitive advantage with Beaver Plastics Copperblock container system. Premium copper enhanced seedlings have a vigorous root system with the perfect balance of lateral and vertical roots. This means rapid establishment and excellent stand stability.

Copperblock™ containers are an environmentally sound method of growing seedlings.

Copper is essential for life. In plants copper is required for chlorophyll production, protein synthesis and respiration.

Copper occurs naturally in our environment. Copper concentrations in soils range from 1-78 mg Cu/Kg, with an average concentration of 22 mg Cu/Kg. The agricultural soil quality guideline for copper is 150 mg Cu/Kg (CCME 1997). If tree seedlings are planted at a stand density of 800 seedlings/ha and each seedling brings with it approximately 60-80 ml of growing medium, the mass transfer of copper to the field would be 156 mg Cu/ha. This is equivalent to a soil concentration of 0.0069 mg Cu/Kg. (PMRA, 2000). While overall the amount transferred to the field is insignificant, the seedling still benefits by having copper available where it counts, in the root zone.

Copperblock containers are manufactured using proprietary equipment in a controlled factory environment using stringent quality control methods. Over 100 million copper enhanced pine seedlings are grown and planted annually.





Copperblock has the Patented Differential Coating

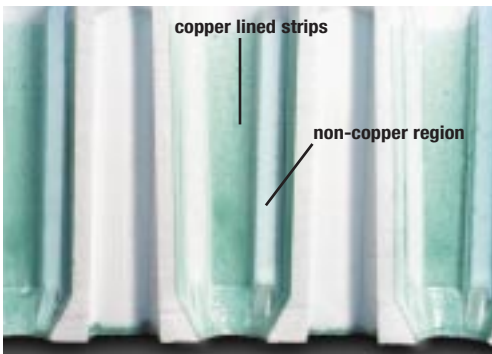
Innovative Technology

Copperblock Containers are manufactured with Beaver Plastics' patented **Differential Coating Technology**. Differential (strip) coating gives growers all the lateral root growth expected from a copper enhanced root system, while at the same time allowing the right proportion of vertical root growth desired for a cohesive plug.

Copperblock containers work by inhibiting root elongation on contact with the copper lined strips on the container wall. Roots that come into contact with the non-copper regions of the cavity are directed downward. The combination of copper enhanced roots and non-copper enhanced roots gives a firm balanced root system that is ready to grow.



A pine grown in a Copperblock container



Typical black plastic 5-gallon seed orchard lodgepole seedling. Note the severe spiraling of the root system. What do you think this tree will look like in 10 to 15 years?

Planting without the benefits of Copperblock

Before 1988, the Copperblock was not available and numerous seed orchards and planting programs of Lodgepole pine were planted without the benefits of a copper enhanced root system. One such program was the progeny test plantation of genetically improved lodgepole pine in northern Alberta, Canada. The trees were grown in standard 1 gallon black plastic containers and then transplanted into the seed orchard. The initial result was positive, with healthy looking tree seedlings. However, after a few years root spiraling combined with a larger top caused the pines to lean and when exposed to severe wind conditions, to fall completely over.





Proven in the Field

Nursery owners, landscapers and foresters recognize the exceptional field performance of seedlings grown in Copperblock containers.

“The Copperblock solved the stability problem of pine when the product became widely used. For pine tree seedlings, copper pruning is essential. A silviculture forester who uses a pine tree seedling not grown in Copperblock risks future stability problems with the outplanted pine”

*Brian McDonald, H.BSc.F
Silviculture Forester, Blue Ridge Lumber Ltd.*



Tested by Research

“...when the seedlings were planted, the inhibited lateral roots very quickly resumed growth. Consequently, the trees soon acquired a root system quite similar in basic form to that of a naturally established seedling.”

*Nigel Burdett,
Research Division, BC Forest Service*

“...roots were quicker to grow and had greater new growth after transplanting from all sections of the plug.”

*Dr. Irwin Smith,
“The effect of copper tray treatments and their root growth potential after transplanting”,
Proceedings, BC Forest Nurseries Association*



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