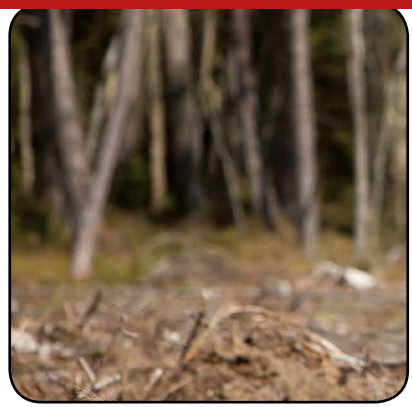
# PLANTING



THE ORIGINAL

POTTIPUTKI

FINNISH DESIGN SINCE

1970

BCC

Plant the Planet

# 01.
# Background

Until the early 1950s, foresters relied almost exclusively on natural regeneration. After this a dramatic shift toward artificial regeneration occurred. Hand planting of bare-root nursery stock was of course the most widespread planting method used initially. But as the containerized growing systems developed worldwide and became more used, foresters were looking for more effective planting methods.

There were different planting tools tested and evaluated in the beginning of this era, such as hoes, dibblers, spades and planting tubes. The general planting capability increased greatly over the next years using the new methods. Planting trees with the Pottiputki became soon a widespread planting method – mainly for its simplicity, ergonomic features and foremost the high level of productivity.

The first planting tube – *Pottiputki* – was designed and manufactured by a Finnish company in the late 1960s and entered the market in 1970. BCC proudly continues the development and refining work of the original Pottiputki.

POTTIPUTKI

Finnish Design Since 1970

# 02.
# Concept


## Pottiputki - planting method

Planting in the forest or plantation is today still done manually in most parts of the world. Where soil and site conditions allow planting tools have been introduced to reduce the physical effort, improve ergonomics, increase productivity and optimize quality of planting.

The Pottiputki is the most efficient tool for manual planting of various sizes of containerized seedlings. The planters can work in an ergonomically correct position and remain the highest productivity making the method both fast and comfortable. The advantages and disadvantages of using the Pottiputki have been studied thoroughly over the years. The ergonomic features and effectiveness using the tube became dominant in the studies. By carrying the plants in a plant box at the waist and by planting from an upright position is s uperior to all other planting methods! The method is quick and easy to use.

# 03.
# Design

## Pottiputki

The Pottiputki has since the late 1960's been developed in close cooperation with infield planting entrepreneurs. All tube types have been thoroughly tested and evaluated; both in special test rigs as well as out in the field, to meet the tough demands of infield planting.

BCC uses only the best raw material available on the market and smaller components from reliable sub-suppliers. The main production of the Pottiputki is kept in-house to ensure control of each and every step in the manufacturing process

**Advantages using the Pottiputki:**

- Suitable for planting most containerized seedlings (several tube diameters).
- Ergonomically correct working position.
- Adjustable planting depth.
- Light and comfortable for extended infield use.
- Fitted with designed handle; both single and double handles are available.
- Rubber coated handle fitted with damping spring.
- Jaws are oil-hardened.
- Sturdy and robust construction.


## Pottiputki Handling Systems

The physical work of planting puts great expectations and demands also on the handling system. To effectively and comfortably hold your seedlings while planting is a crucial step in the process of planting. The balance between holding capacity of seedlings and planting capacity is optimized in BCC systems. The plant box is designed to meet various types of seedlings and sizes.

Our objective is to develop long lasting and comfortable handling systems for the professional planter as well as for the amateur. BCC is communicating and exchanging ideas with experts in the forest industry on a continuous basis – this in order to supply the market with optimal solutions.


POTTIPUTKI
POTTIPUTKI

# 04.
# Principles of planting

## Soil preparation

The wide range of soil types in the forest requires different site preparation methods with a variety of tools and equipment. The methods explained below refer to soil conditions in the Northern Hemisphere.

To prepare the soil by scarification is an important factor to ensure successful regeneration – regardless if you plant, sow or naturally regenerate. Soil preparation involves a process in which the top layer of the soil is carefully removed by special machines with the purpose of uncovering the mineral soil.

The process of scarification will increase the survival rate and also the growth of the seedling. The planting process also becomes easier after this process.

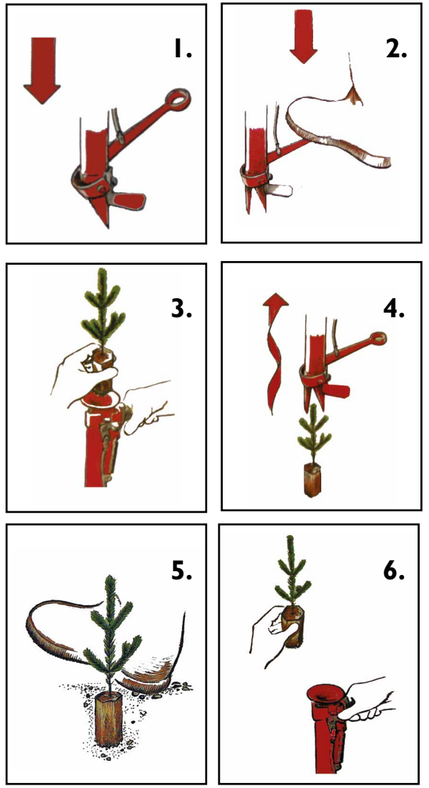
**Advantages with soil preparation:**

- Less competition from weeds
- Lower risk of Pine Weevil attacks
- Higher temperature in soil
- More even level of soil moisture
- Lower risk of frost
- Better supply of nutrients
- Better drainage
- Better planting spots

## Using the Pottiputki

It is easy to use the Pottiputki! The simplicity of working with the planting tube and its ergonomic and effective features make the Pottiputki the most utilized manual planting tool in the world.

1. Push the tube into the ground and step on the limiter until the appropriate depth is achieved.
2. Step on the opening pedal to open the jaws.
3. Drop the seedling into the tube.
4. Lift the tube out of the ground with a twisting motion to loosen any soil, which might be stuck in the jaws.
5. Tamp the seedling firmly into the ground with your foot on either side.
6. Close the jaws by using the release lever. Take a new seedling with your free hand and choose the next transplanting site while moving forward.



# Logistics in planting




The ambition of every planting entrepreneur is to plant as many seedlings as possible in the shortest time – with highest level of quality. This is done best if you have a thorough plan involving all the steps from the nursery to the planting operation.

Maneuvering the Pottiputki effectively will of course make a difference in increasing the planting capacity. But finding the optimal method of transporting, storing and collecting the seedlings in the forest are also crucial steps that must not be neglected. These are factors in the planting process that sometimes become bottle necks and consequently affect the planting efficiency negatively.

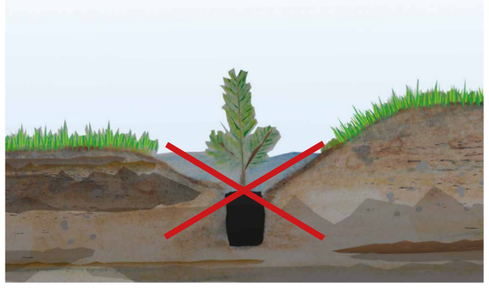
Every planting entrepreneur must analyze the local conditions closely and also learn the details about the seedling stock to be planted. It is challenging to plan and execute the planting work as optimal and cost efficient as possible.

## Planting & planting spot

Planting containerized seedling stock is the most common and best method for securing your reforestation process. The rapid growth of the planted stock can positively out-compete other vegetation and this is only achieved by means of an efficient planting operation. The number of seedlings planted per hectare is determined by local silvicultural guidelines.

Seedlings in the Northern Hemisphere are generally planted every other meter in the wheel tracks (2 m wide) of specialized forestry machines. This will be equivalent to approximately 2 500 seedlings per hectare. In poor soils, fewer seedlings are planted and in richer soils, more seedlings can be planted.

Seedlings are best planted after soil scarification, but the planting spot within this area is also of great importance. Rule of thumb is to plant the seedling deep into clean mineral soil, high up in the turf and far from other vegetation. The distance from the planting spot to unprepared soil (humus layer) should be at least 20 cm.

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