

Biodegradable pots by

Wageningen UR and flower pot manufacturer Desch Plantpak have developed a plant-based and compostable plastic pot. It does the job just as well as a plastic pot. TEXT AND PHOTOGRAPHY HANS WOLKERS

Dutch plant-breeding companies use millions of kilos of plastic plant pots every year. Many of the pots are produced by the Dutch market leader, Desch Plantpak in Waalwijk. The production of the pots uses large quantities of plastic, the raw material for which is oil. Something had to be done to change this, thought the company. So it joined forces with Wageningen UR to look for a sustainable alternative. 'As a company we want to act responsibly towards people and the environment and to make smart use of resources,' explains commercial director Wouter Zieck. 'Besides, there is not an unlimited supply of the raw material for plastic pots, crude oil. When oil becomes scarcer, the supply of our raw material will become less reliable and the price will go up.'

TECHNOLOGICAL SUPPORT

The development of the sustainable plants pots was a challenge that took more than six years to meet. 'The pot not only had to be made from plant-based materials but also to be produced at a competitive price and to function well in practice,' says project leader Gerald Schennink of Wageningen UR Food & Biobased Research. His team provided the project with technological support and developed the raw material for the pots. Applied Plant Research (PPO), part of Wageningen UR, studied how plants grow plants in the pots. Desch Plantpak tested the production process on an industrial scale. The sustainable plants had to be producible by the same method as the plastic pots. This

is a process known as thermoforming in which a machine presses thick warm plastic foil into a mould.

The chosen raw materials was polylactic acid (PLA), made from starch from all kinds of crops and waste flows. The main disadvantage of this material is that it is not heat-resistant, causing pots made of pure PLA to become misshapen in a hot greenhouse. But their heat resistance improved with the addition of secret ingredients.

GREEN WASTE

The result is impressive: a plant pot that has been named D-Grade® and which behaves like plastic but is 100 percent recyclable as well as compostable in an industrial compost facility. So the pot can go into the green waste bin. The cost price is about three times as high as that of conventional plastic plant pots, but that is counterbalanced by the added value the product has for many customers, who do not mind paying extra for it. 'Within two years we want to double the production of D-Grade pots,' says Zieck. 'After that we expect further growth.' Desch Plantpak does not want to stop at the D-Grade pots. 'Together with Wageningen we are going to work on a variant that breaks down even more easily, a soil-degradable pot,' explains Zieck. 'Pots like those are of particular interest to forestry and large-scale planting projections such as on roadsides. These pots break down in the ground so they don't have to be taken away.' ■



the tonne



‘We want to double production within two years’

