



## **Robocrop: Raspberry-Picker Robot Set to Replace More Workers**

Goodbye fruit pickers. Designed by skilled Technocrats, this robot picker will out-produce any human field worker by 40% or more. The tech is being adapted to all sorts of delicate crops that need to be picked. □ TN Editor

Quivering and hesitant, like a spoon-wielding toddler trying to eat soup without spilling it, the world's first raspberry-picking robot is attempting to harvest one of the fruits.

After sizing it up for an age, the robot plucks the fruit with its gripping arm and gingerly deposits it into a waiting punnet. The whole process takes about a minute for a single berry.

It seems like heavy going for a robot that cost £700,000 to develop but, if all goes to plan, this is the future of fruit-picking.

Each robot will be able to pick more than 25,000 raspberries a day, outpacing human workers who manage about 15,000 in an eight-hour

shift, according to Fieldwork Robotics, a spinout from the University of Plymouth.

The robot has gone on trial in the UK, as the farming industry battles rising labour costs and Brexit-related [shortages of seasonal workers](#).

Numbers of seasonal workers from eastern Europe have diminished, partly due to Brexit fears but also because Romania and Poland's surging economies have persuaded their own workers to remain in their home countries .

The robot has been developed in partnership with Hall Hunter, one of Britain's main berry growers which supplies Tesco, Marks & Spencer and Waitrose. Standing at 1.8 metres tall, the wheeled machine with its robotic arm has begun field trials in a greenhouse at a Hall Hunter farm near Chichester in West Sussex.

Guided by sensors and 3D cameras, its gripper zooms in on ripe fruit using machine learning, a form of artificial intelligence. When operating at full tilt, its developers say the robot's gripper picks a raspberry in 10 seconds or less and drops it in a tray where the fruit gets sorted by maturity, before being moved into punnets, ready to be transported to supermarkets.

The final robot version, expected to go into production next year, will have four grippers, all picking simultaneously.

Separate field trials in China have shown the robot can pick tomatoes, and it has also been let loose on cauliflower.

As robots don't get tired, they can pick for 20 hours a day, but the biggest challenge has been getting them to adapt to different light conditions, says Rui Andres, portfolio manager at Frontier IP, one of the main backers of Fieldwork.

Andres says UK farmers typically pay £1 to £2 for a kilogram of raspberries picked by human workers. Fieldwork intends to lease its robots to farmers for less.

The robot is the brainchild of Dr Martin Stoelen, a lecturer in robotics at Plymouth University, who moved from aerospace engineering into robots and took inspiration from his grandparents' farm in Norway. By tackling one of the most difficult soft fruits first, he hopes to be able to tweak the technology so the robot can be used to pick other berries, fruit and vegetables.

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