An AI robot is spotting sick tulips to slow the spread of disease through Dutch bulb fields

March 19 2024, by Mike Corder

Theo the robot works weekdays, weekends and nights and never complains about a sore spine despite performing hour upon hour of what for a regular farmworker would be backbreaking work checking Dutch tulip fields for sick flowers in Noordwijkerhout, Netherlands, Tuesday, March 19, 2024. The boxy robot, named after a former employee at the WAM Pennings flower farm near the Dutch North Sea coast, is a new high-tech weapon in the battle to root out disease from the bulb fields as they erupt into a riot of springtime color. Credit: AP Photo/Peter Dejong

Theo works weekdays, weekends and nights and never complains about a sore spine despite performing hour upon hour of what, for a regular farm hand, would be backbreaking labor checking Dutch tulip fields for sick flowers.

The boxy robot — named after a retired employee at the WAM Pennings farm near the Dutch North Sea coast — is a new high-tech weapon in the battle to root out disease from the bulb fields as they erupt into a riot of springtime color.

On a windy spring morning, the robot trundled Tuesday along rows of yellow and red "goudstuk" tulips, checking each plant and, when necessary, killing diseased bulbs to prevent the spread of the [tulip](#) -breaking virus. The dead bulbs are removed from healthy ones in a sorting warehouse after they have been harvested.

The virus stunts growth and development of plants leading to smaller and weaker flowers. It also weakens the bulb itself, eventually leaving them unable to flower.

As part of efforts to tackle the virus, there are 45 robots patrolling tulip fields across the Netherlands as the weather warms up and farmers approach peak season when their bulbs bloom into giant patchworks of color that draws tourists from around the world.

In the past, this was work carried out by human "sickness spotters," said Allan Visser, a third-generation tulip farmer who is using the robot for the second growing season.

Theo the robot works weekdays, weekends and nights and never complains about a sore spine despite performing hour upon hour of what for a regular farmworker would be backbreaking work checking Dutch tulip fields for sick flowers in Noordwijkerhout, Netherlands, Tuesday, March 19, 2024. The boxy robot, named after a former employee at the WAM Pennings flower farm near the Dutch North Sea coast, is a new high-tech weapon in the battle to root out disease from the bulb fields as they erupt into a riot of springtime color. Credit: AP Photo/Peter Dejong

"You could also buy a very nice sports car," for the price of the robot, Visser said Tuesday — its makers say the robot costs 185,000 euros ($200,000).

"But I prefer to have the robot because a sports car doesn't take out the

sick tulips from our field. Yeah, it is expensive, but there are less and less people who can really see the sick tulips," he added.

It's a lot slower than a sports car, rolling on caterpillar tracks through fields at one kilometer per hour (0.6 mph) hunting out the telltale red stripes that form on the leaves of infected flowers.

"It has cameras in the front, and it makes thousands of pictures of the tulips. Then it will, determine if the tulip is sick or not by its AI model," Visser explained, calling it "precision agriculture."

"The robot has learned to recognize this and to treat it," he added.

Theo van der Voort, a spotter of sick tulips, walks ahead of his namesake Theo the robot, who works weekdays, weekends and nights and never complains about

a sore spine despite performing hour upon hour of what for a regular farmworker would be backbreaking work checking Dutch tulip fields for sick flowers in Noordwijkerhout, Netherlands, Tuesday, March 19, 2024. The boxy robot, named after a former employee at the WAM Pennings flower farm near the Dutch North Sea coast, is a new high-tech weapon in the battle to root out disease from the bulb fields as they erupt into a riot of springtime color. Credit: AP Photo/Peter Dejong

Allan Visser, a third-generation tulip farmer walks near to Theo the robot, in Noordwijkerhout, Netherlands, Tuesday, March 19, 2024. An artificial intelligence robot is a new high-tech weapon in the battle to root out disease from Dutch tulip fields as they erupt into a riot of springtime color. The robot is replacing a dwindling number of human "sickness spotters" who patrol bulb fields on the lookout for diseased flowers. Credit: AP Photo/Peter Dejong

Theo van der Voort, a spotter of sick tulips, walks next to his namesake Theo the robot, who works weekdays, weekends and nights and never complains about a sore spine despite performing hour upon hour of what for a regular farmworker would be backbreaking work checking Dutch tulip fields for sick flowers in Noordwijkerhout, Netherlands, Tuesday, March 19, 2024. The boxy robot, named after a former employee at the WAM Pennings flower farm near the Dutch North Sea coast, is a new high-tech weapon in the battle to root out disease from the bulb fields as they erupt into a riot of springtime color. Credit: AP Photo/Peter Dejong

Theo the robot works weekdays, weekends and nights and never complains about a sore spine despite performing hour upon hour of what for a regular farmworker would be backbreaking work checking Dutch tulip fields for sick flowers in Noordwijkerhout, Netherlands, Tuesday, March 19, 2024. The boxy robot, named after a former employee at the WAM Pennings flower farm near the Dutch North Sea coast, is a new high-tech weapon in the battle to root out disease from the bulb fields as they erupt into a riot of springtime color. Credit: AP Photo/Peter Dejong

Theo the robot works weekdays, weekends and nights and never complains about a sore spine despite performing hour upon hour of what for a regular farmworker would be backbreaking work checking Dutch tulip fields for sick flowers in Noordwijkerhout, Netherlands, Tuesday, March 19, 2024. The boxy robot, named after a former employee at the WAM Pennings flower farm near the Dutch North Sea coast, is a new high-tech weapon in the battle to root out disease from the bulb fields as they erupt into a riot of springtime color. Credit: AP Photo/Peter Dejong

Allan Visser, a third-generation tulip farmer, is interviewed next to Theo the robot, in Noordwijkerhout, Netherlands, Tuesday, March 19, 2024. An artificial intelligence robot is a new high-tech weapon in the battle to root out disease from Dutch tulip fields as they erupt into a riot of springtime color. The robot is replacing a dwindling number of human "sickness spotters" who patrol bulb fields on the lookout for diseased flowers. Credit: AP Photo/Peter Dejong

Theo the robot works weekdays, weekends and nights and never complains about a sore spine despite performing hour upon hour of what for a regular farmworker would be backbreaking work checking Dutch tulip fields for sick flowers in Noordwijkerhout, Netherlands, Tuesday, March 19, 2024. The boxy robot, named after a former employee at the WAM Pennings flower farm near the Dutch North Sea coast, is a new high-tech weapon in the battle to root out disease from the bulb fields as they erupt into a riot of springtime color. Credit: AP Photo/Peter Dejong

Allan Visser, a third-generation tulip farmer, is interviewed about Theo the robot, in Noordwijkerhout, Netherlands, Tuesday, March 19, 2024. An artificial intelligence robot is a new high-tech weapon in the battle to root out disease from Dutch tulip fields as they erupt into a riot of springtime color. The robot is replacing a dwindling number of human "sickness spotters" who patrol bulb fields on the lookout for diseased flowers. Credit: AP Photo/Peter Dejong

Theo the robot works weekdays, weekends and nights and never complains about a sore spine despite performing hour upon hour of what for a regular farmworker would be backbreaking work checking Dutch tulip fields for sick flowers in Noordwijkerhout, Netherlands, Tuesday, March 19, 2024. The boxy robot, named after a former employee at the WAM Pennings flower farm near the Dutch North Sea coast, is a new high-tech weapon in the battle to root out disease from the bulb fields as they erupt into a riot of springtime color. Credit: AP Photo/Peter Dejong

Theo the robot works weekdays, weekends and nights and never complains about a sore spine despite performing hour upon hour of what for a regular farmworker would be backbreaking work checking Dutch tulip fields for sick flowers in Noordwijkerhout, Netherlands, Tuesday, March 19, 2024. The boxy robot, named after a former employee at the WAM Pennings flower farm near the Dutch North Sea coast, is a new high-tech weapon in the battle to root out disease from the bulb fields as they erupt into a riot of springtime color. Credit: AP Photo/Peter Dejong

Erik de Jong of H2L Robotics, the company that makes the robots, says artificial intelligence helps them identify sick flowers and very precise GPS coordinates allows them to pinpoint the flowers that need to be destroyed.

"The heart of the machine is the knowledge that we put into the AI model. The knowledge comes from tulip farmers. So we we use the knowledge of the tulip farmers, we combine it into an AI model," he said.

Theo van der Voort, who gave his name to the [robot](#) at WAM Pennings farm, and who retired after 52 years hunting for sick flowers, is impressed.

"It's fantastic," he said. "It sees just as much as I see."

Citation: An AI robot is spotting sick tulips to slow the spread of disease through Dutch bulb fields (2024, March 19) retrieved 6 May 2024 from https://techxplore.com/news/2024-03-ai-robot-sick-tulips-disease.html