



Model OPTISAVE

The intelligent gap
switch on the sprayer





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The application of plant protection products secures the yield and product quality in fruit growing. Since such protection products are very expensive, we offer you the solution for cost savings and controlled control when applying the pesticides.

Our modular system OPTISAVE has numerous optical sensors, which also detect small gaps in the foliage wall. These events are recorded by the system and the corresponding nozzles are individually controlled.

Reliable gap detection is based on accurate detection of small objects (branches). A branch with 8 mm diameter can be at max.

11 km / h and a distance from the sprayer of max. 3.5 m depth detected. The corresponding nozzle opens targeted at the right time so that only the recognized branch is sprayed.

The OPTISAVE system can easily be retrofitted to conventional orchard sprayers. It is possible to attach up to 20 optical sensors IRS02 per side of the sprayer by means of a sensor mast.

All data are evaluated by a microcontroller and its control unit and can be read in detail on the control terminal.

HOLDER



**REFLEX LIGHT
SENSORS IRS 02**



Foto: JKI, Dr. T. Pelzer



Foto: OVA, J. Huhs

The control unit

It consists of the control unit, the operating terminal and the console. The entire sensor system is connected to the control module SPG20 via an interface. This control module includes all the electronics. Via a high-speed bus, all nozzles are switched via a corresponding interface including power electronics. The control unit includes further connection options of the respective sensors, including wheel sensors, pressure sensor, content probe, optical sensors, etc .. A corresponding software allows automatic switching of the valves when entering a new row of trees or when leaving the row of trees.

robust housing, which is protected against splashing water according to IP64. The sensor is attached to the sensor mast by means of a large plastic nut and the connection to the evaluation unit is made by means of a screw-type plug connection.

The control panel

It allows fast access to the most important switching operations. Switching operations of the sections and other special functions can often be carried out with the help of a joystick. In the configuration menu of the terminal, any key / switch can be assigned any function. The connection to the control terminal is wireless via Bluetooth.

Optical sensor

After a long development time and tests, a sensor including an optical unit for object recognition was developed. Within a range of 3.5 m, objects are detected and evaluated at a travel speed of up to 11 km / h and with a diameter of 8 mm. The sensor is housed in a

The operator terminal

The 8 "color display operator panel displays all important data on the operation of the sprayer: current pressure values, speed, and tank contents. All functions are graphically displayed via the terminal and all inputs are ►



CONTROL PANEL

OPERATING TERMINAL



- made to operate the system. The intuitive menu navigation allows you to configure or enter the individual data related to spraying.

In the configuration menu, the number of existing sensors or each optical sensor can be assigned to a valve. Most of the ads are configurable. Another highlight is the data exchange between Optisave and the software on the PC (via WLAN or mobile network). The positioning system GPS helps the user to automatically identify the entered properties and to activate the corresponding spray program. In addition, a later traceability is given. Updates can always be downloaded over the Internet.

Software

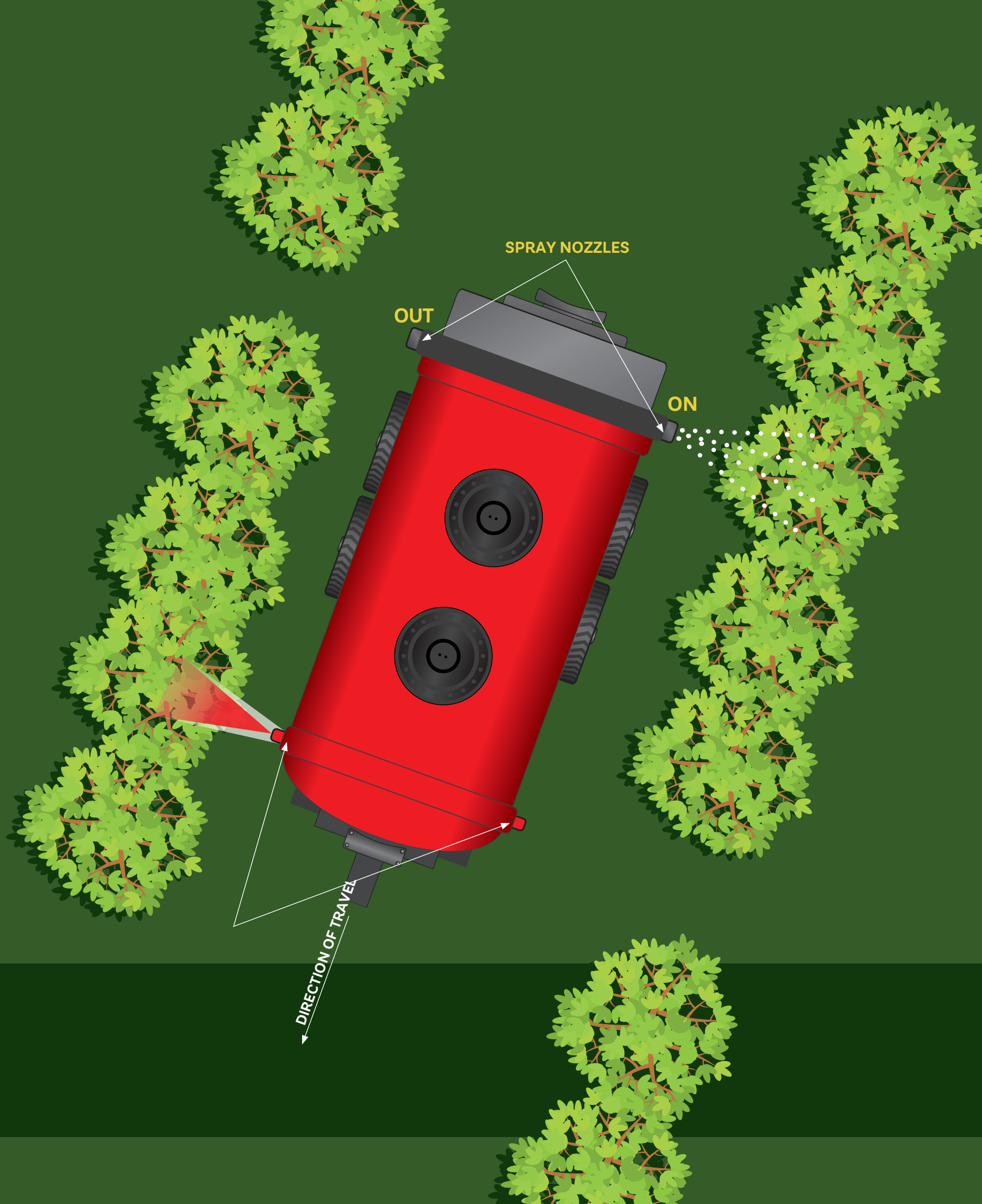
In addition to the myriad possibilities, the software offers various operating modes, which are selected by spray programs. For independent, simple operation of the sprayer, automatic, speed-dependent pressure control is provided without further parameter input.

For semi-automatic, the software provides a limited input to operating parameters, which allows a more accurate control of the desired application rate. In contrast to fully automatic, no master data such as land, row widths etc. must be entered.

The fully automatic system is based on the entry of the master data, which can be entered once and retrieved as needed.

Technical specifications

- The system can be retrofitted and freely configured
- Maximum number of sensors: 20 + 20
- Maximum number of switchable nozzles: 20 + 20
- Diameter optical sensor: 75 mm
- Range of object recognition: 3.5 mt
- Maximum speed with gap detection: 11 km / h
- Operator terminal with 8 "display
- Control panel with 4-way joystick and 6 configurable buttons
- Max. 2 TMX10 interface modules for controlling a maximum of 10 valves
- Max. 2 Modular Interface Modules AMX10 for connection of max. 10 optical sensors



SPRAY NOZZLES

OUT

ON

DIRECTION OF TRAVEL

Die Förderung des Vorhabens erfolgt (bzw. erfolgte) aus Mitteln des **Bundesministeriums für Ernährung und Landwirtschaft (BMEL)** aufgrund eines Beschlusses des deutschen Bundestages. Die Projektträgerschaft erfolgt (bzw. erfolgte) über die **Bundesanstalt für Landwirtschaft und Ernährung (BLE)** im Rahmen des Programms zur **Innovationsförderung**.

The project is supported (was supported) by funds of the **Federal Ministry of Food and Agriculture (BMEL)** based on a decision of the Parliament of the Federal Republic of Germany via the **Federal Office for Agriculture and Food (BLE)** under the innovation support programme.

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Art. Nr. 52-52-83

Art. No. 52-52-83: 6 + 6 sensors & 6 + 6 valves

Art. No. 52-52-73: 7 + 7 sensors & 7 + 7 valves

Art. No. 52-52-74: 8 + 8 sensors & 8 + 8 valves

Art. No. 52-52-69: 9 + 9 sensors & 9 + 9 valves

