

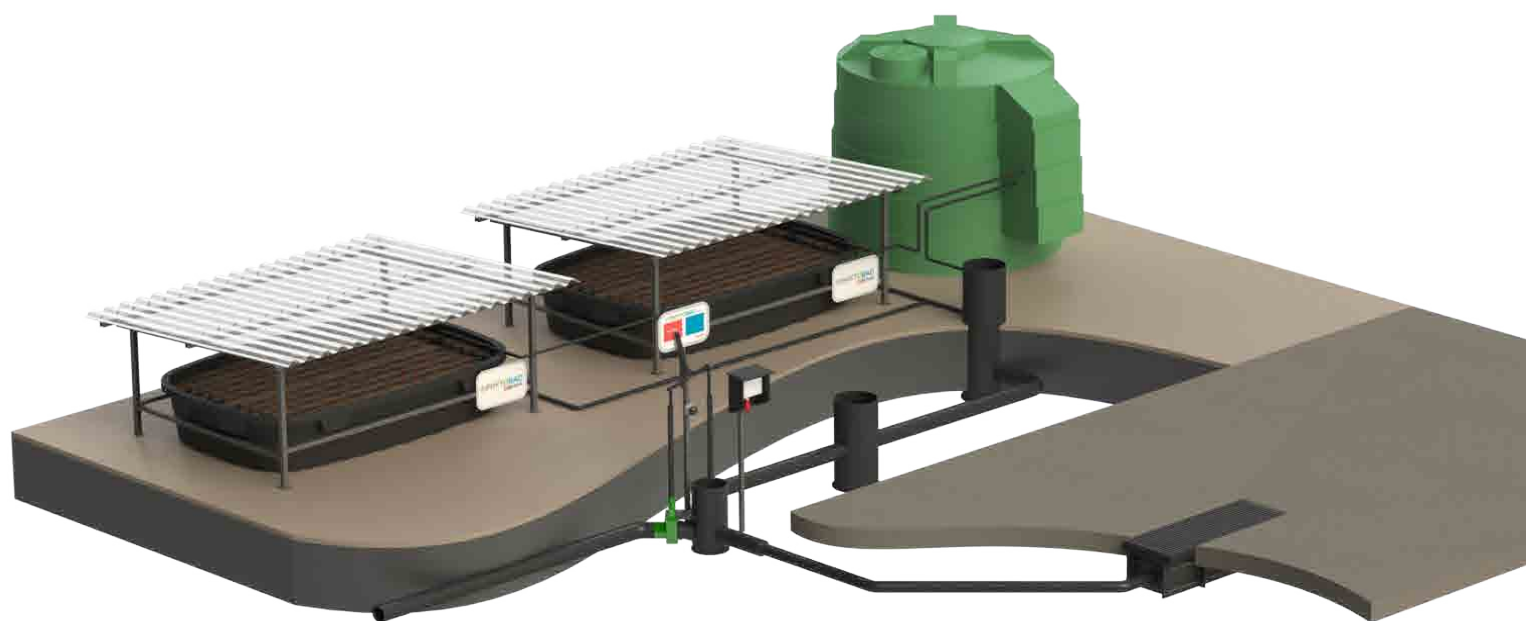


**PHYTOBAC®**

**Beutech**  
AGRO



## SAFE DISPOSAL OF SPRAYER RESIDUES WITH PHYTOBAC® BIO-BED



- 💧 Protects the surface water
- 🌿 Sustainable (microbiologically degraded)
- ✓ Proven technology (3500+ existing installations)
- € No residual liquid - complete bioremediation
- ® Patented system
- ⚙️ Developed in close collaboration with Bayer



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Spray your crops ...



... collect any residual liquid and wash water ...



... and let nature take care of the disposal.

**Crop protection products helps to deliver a healthy harvest, but should not come into contact with surface water. The Phytobac system is an organic way to safely handle crop protection residues and help protect the ground and surface water.**

**What is the benefit of the Phytobac<sup>®</sup> system?**

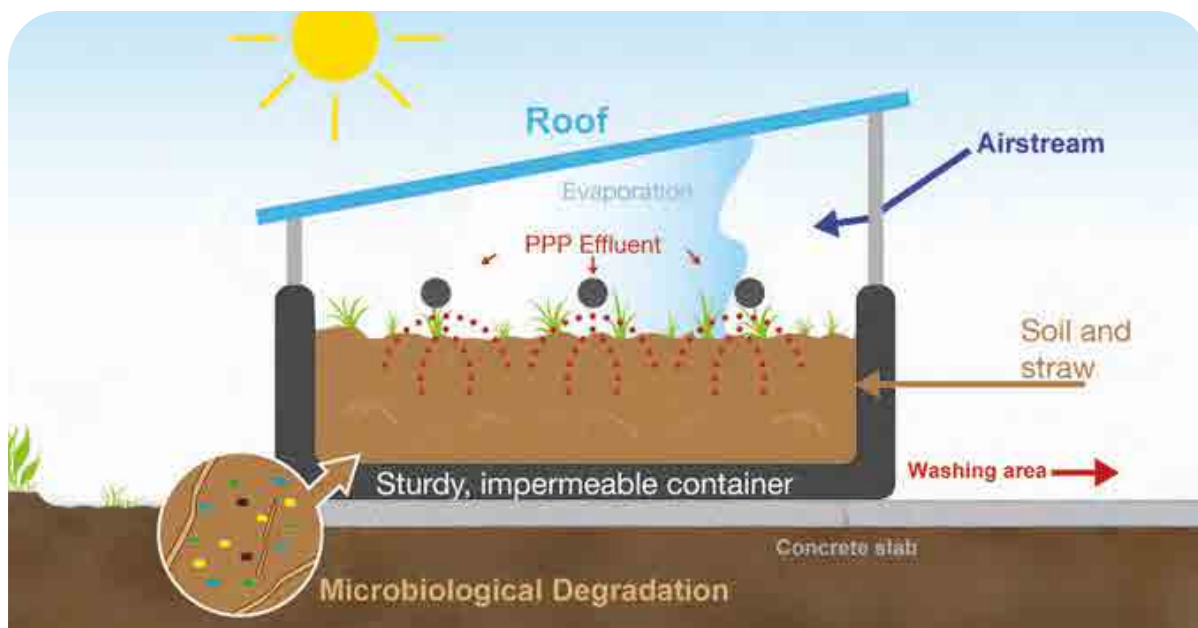
The Phytobac is a closed system which helps you fill and clean your sprayer quickly and safely without contaminating your drains or water courses.

**How does the Phytobac<sup>®</sup> system work?**

The sprayer is filled and cleaned on a dedicated wash down area. Residual liquid and wash water is collected, passed

through a sludge trap to remove solids and then pumped to a buffer tank.

From here the liquid is sprayed at a controlled rate onto the bio-bed - a natural bed of straw and top soil. The chemical products are degraded by micro-organisms in the soil and the water is evaporated. Any run-off from the bed flows back into the system. The cleaning processes are both natural and free.

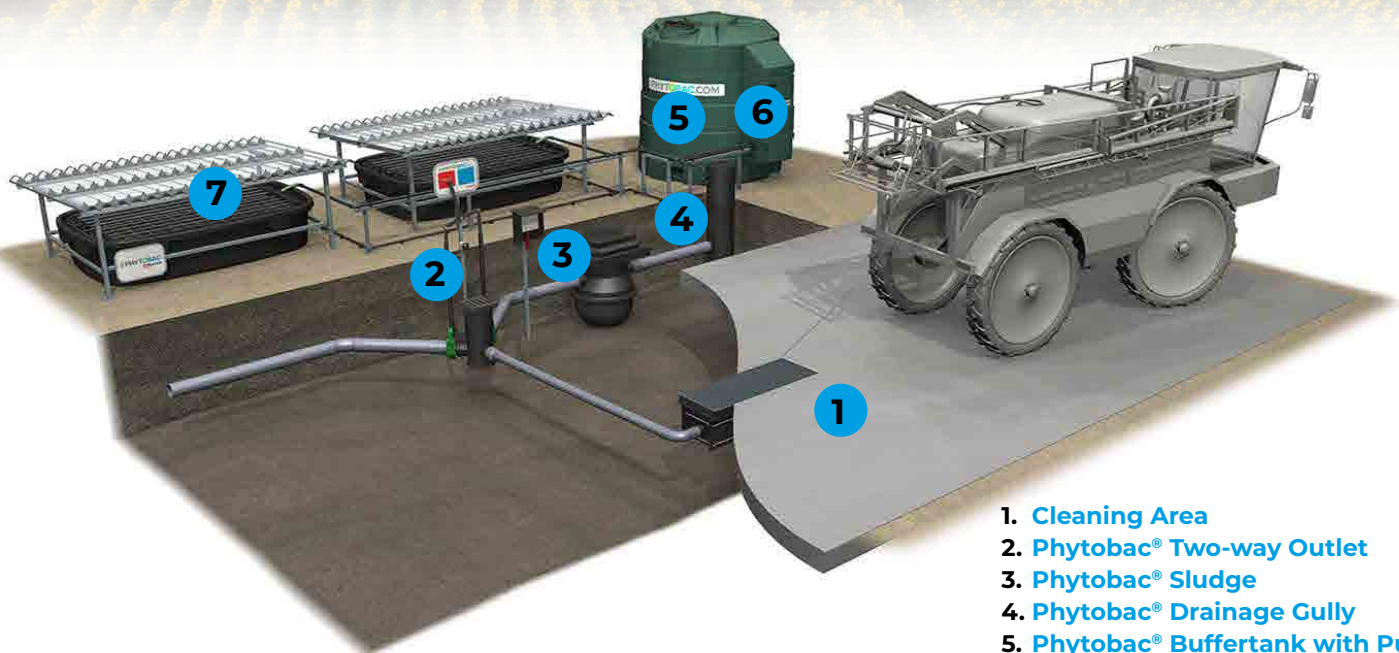
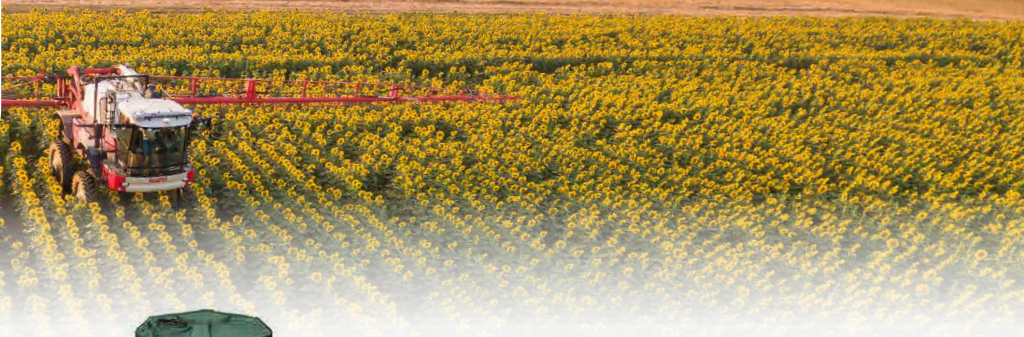






# PHYTOBAC®

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- 1. **Cleaning Area**
- 2. **Phytobac® Two-way Outlet**
- 3. **Phytobac® Sludge**
- 4. **Phytobac® Drainage Gully**
- 5. **Phytobac® Buffertank with Pump**
- 6. **Phytobac® Control Unit with Sensor**
- 7. **Phytobac® Bio-bed**

### Which parts of the Phytobac system can you see?

Only the cleaning area, the bio-bed and the buffer tank are visible. Everything else happens behind the scenes. This applies to the sensor-controlled continuous trickling of the wash water as well as to the work of millions of the smallest microorganisms in the soil straw mixture.

### Phytobac® - the customer-oriented modular system from Beutech Agro

You decide which of the seven modules you need:

- 1. The pre-sludge trap on the cleaning area serves as a sedimentation basin for coarse soil and stones.
- 2. The mechanical changeover controls two water circuits. The position of the lever indicates the selected mode.
- 3. The sludge trap ensures that no soil or dirt blocks the functioning of the Phytobac system.
- 4. The pump sump where contaminated cleaning water flows from the cleaning area and excess drainage water from the bio-bed. The water is pumped by submersible pump into the storage tank.
- 5. Buffer tank with pump and safety shutdown. To continuously supply the bio-bed with the optimum amount of water, the contaminated cleaning water is held in the buffer tank.

- 6. The control unit with sensor automatically monitors the optimum humidity in the bio-bed and actively controls the targeted trickling.
- 7. The water-tight bio-bed in which the microorganisms biologically degrade pesticide residues.

Whatever you are growing, the Phytobac system can be customised precisely to your farm's capacity, location and operational needs, to provide an individual, cost-effective solution.

### Phytobac® - a milestone in water protection

Phytobac® is a safe, sustainable way to dispose of crop protection residues so they don't contaminate your water courses or drains.

The modular system is customised for each farm providing an automatic, closed solution with no waste.





## Module 1: *Cleaning Area*

Cleaning areas for agricultural machines contain a lot of soil. The pre-sludge trap on this area slows down the wash water so that the heavy solids can settle in the storage space. It is covered by a drive-over heavy-duty grate which can be cleaned using a bucket and wheelbarrow.

### Restraint of coarse sludge on cleaning areas.

- Material: Plastic PE-HD - welded DVS 2201.
- Water-tight
- UV-resistant
- For installation in washable wash stands, class D400
- Grate cover, 2-part, galvanized.
- Pipe connections in  $\phi$  110,  $\phi$  125 and  $\phi$  160

### Technical specifications

	Lenght (mm)	Width (mm)	Depth (mm)
Outside	1500 / 3000	580	450
Inside	1310 / 2810	400	310



## Module 2: *Phytobac*<sup>®</sup> Two-way Outlet

The switch allows you to send either run-off rainwater into a reservoir or drainage ditch or wash water in the Phytobac buffer tank. The switch is operated by a lever, which is placed directly in front of a sign that clearly indicates the selected cycle, blue = rainwater, red = Phytobac.

### Specifications Switcher

- Material drain: HDPE / galvanized steel
- Dimensions:  $\phi$  500 x 700 mm
- Colour: Black
- Weather resistant, UV resistant

All connections (size, position and depth) are adapted to the specific operation.

### Connections lines

- Input: 1 x  $\phi$  110 mm
- Output: 2 x  $\phi$  110 mm
- Power connection for the high pressure cleaner (400 Volt) with timer

### Options

- Connections in  $\phi$  125 mm or  $\phi$  160 mm
- 2-circuit with departure in the same direction
- 3 circuit with outlet of 3 tubes







## Module 3: *Phytobac<sup>®</sup>* Sludge Trap

The sludge trap is positioned between the drain manhole (module 2) and the pump sump. The manhole is equipped with a collection bucket, empties automatically.

### Specifications Sludge trap

- Material: HDPE
- Dimensions:  $\varnothing$  800 x 1.500 [mm]
- Colour: Black
- Lid: Cast iron (loose), walkable
- Connections: 2 x  $\varnothing$  110
- Weather resistant, UV resistant

All connections (size, position and depth) are adapted to the specific operation.

### Specifications bucket

- Material bucket: HDPE
- Dimensions:  $\varnothing$  300 x 200
- Capacity sludge trap: approx. 10 l

### Options

- Grid instead of lid
- Cover heavy traffic (D400)
- Connections in  $\varnothing$  125 mm or  $\varnothing$  160 mm



## Module 4: *Phytobac<sup>®</sup>* Drainage Gully

The pump sump consists of a watertight shaft with pre-assembled submersible pump made of stainless steel and with safety shutdown. Accumulating water is pumped further into the buffer tank. (Module 5).

### Specifications outflow

- Dimensions:  $\varnothing$  400 x 1.500 mm
- Material: HDPE, UV-resistant
- Colour: Black

### Specifications submersible pump

- Material: stainless steel
- Voltage: 230 Volt/50 Hz 0,25 kW \*
- Pump power: max. 150 l/min.
- Head: 7 m

\* Is fed and controlled via the Phytobac control (Module 6)

### Connections

1 x drainage return PE  $\varnothing$  40 mm

All connections (size, position and depth) are adapted to the specific operation.





## Module 5: *Phytobac*® Buffertank with pump

Our tanks are double-walled and thus leak-proof. The attached housing contains the controller (module 6), the filter and other equipment (installation kit).

### Specifications tank

- Inspection opening: 4" or 16" (16" from 3,500 l)
- Material: seamlessly poured PE
- Colour: dark green (RAL 6012)
- The outer tank has at least 110% of the storage capacity of the inner tank.
- Weather resistant, UV resistant
- Fixed filter systems

### Available capacities and dimensions

Capacity [l]	Length [m]	Width [m]	Height [m]
1,200	1,90	1,24	1,79
2,500	2,46	1,46	1,85
3,500	2,85	2,20	1,96
5,000	2,70	2,23	2,34
9,000	3,28	2,48	2,95

### Installation set:

Specifications pumps

- Typ: submersible pump stainless steel 230/400 volts
- Power: 0,25-0,55 kW
- Performance: up to 14 m<sup>3</sup> / h
- Materials: plastics, stainless steel

### Connections

- 1 x PE Ø 32 [mm] (from pump sump, module 4)
- 1 x PE Ø 32 [mm] (to substrate container, module 7)
- 1 x Camlock 1" - d25 hose coupling

### Options

- Connections with Camlock couplings in different sizes
- Other pumps on request
- Adjustable frost guard with electric heater (230 Volt)
- Mechanical level indicator outside
- Larger tank volumes on request







## Module 6: *Phytobac®* Control Unit with Sensor

The control of the Phytobac system is automatic delivering optimum degradation and evaporation conditions in the bio-bed. Including control and fuse pumps, CE mark: complies with EMC standards 2006/95 / EC (EN 61000-6-1 / 3)

### Module components

- 1 x control / control cabinet
- 1 x soil moisture sensor with 5 m cable
- Flash light (red): alarms, tank full
- Plug connection or main switch \*

### Specifications housing

- Dimensions: 257 x 217 x 112 mm
- Material: ABS
- Colour: grey (RAL 7035)
- Waterproof: IP65/DIN EN 60529

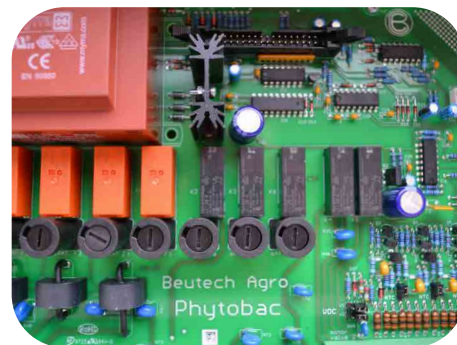
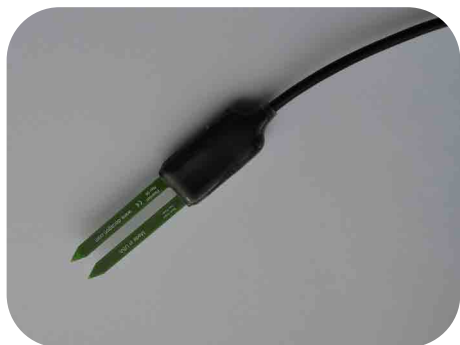
### Settings

- Control of pump 1. Irrigation / 2. Pump sump
- Substrate moisture
- Watering duration and interval

### Connections

Voltage: 230 Volt or 400 Volt and so 5 x level switches, 2 x soil moisture sensor, 1 x leak indication to the switch (Module 6) Alarm circuit with flash or other company-specific display.

\* When ordered in combination with a buffer tank (module 6) the controller is installed in the tank housing.





## Module 7: *Phytobac*<sup>®</sup> Bio-bed

A complete Phytobac Bio-bed consists of a watertight container with height-adjustable zinc-plated roof frame, roof panels, control tube and pre-installed drainage system with infiltration plate and drip lines on steel frame.

### Specifications Substrate container

- Dimensions: 3 x 2 x 0,6 m
- Material: seamlessly poured PE, UV-resistant
- Colour: Black

### Specifications frame and roof

- Dimensions: 3,3 x 2,8 x 1,2 m
- Material: Frame, screws and nuts: Steel, hot-dip galvanized
- Roof tiles: single-wall PC corrugated sheet 177/51 UV-resistant

### Cables

- Drainage tube: Ø 60 mm + Control tube Ø 200 x 600 mm pre-assembled on detachable frame, easy to connect
- Drip line:



### Connections per module

- 1 x Return PE Ø 40 mm
- 1 x inflow PE Ø 32 mm

### Optional

- Safety net

### Connections

Please ensure sufficient standing space between multiple bio-beds (about 4.0m x 3.5m per container)

*Phytobac*<sup>®</sup> - a milestone  
in sustainable water  
management