

Customer: Barenbrug Holland B.V.
Project: **Instruction YJWM Seeding machines**
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Introduction

Barenbrug created Yellow Jacket Water Manager (YJWM) seed enhancement on grass seeds. YJWM is a solution to make water available for germination and establishment of the seed and seedling. This product needs proper machine settings for a smooth processing. The seed enhancement makes the seed rough and might attract water. Both are influencing the flow through the machine. This document describes the points to be aware off.

Moisture

YJWM attracts water. This is what we want in the soil, but it might also happen in the bag. It happens whenever the enhanced seed is in contact with humid air. This can be:

- In the bag
 - o Closed bags attract less water than open bags.
- In the barn
 - o Bags in closed controlled environment (low humidity, constant temperature) attract less water than bag in open barn (fluctuating humidity and fluctuating temperature).
- In the machine
 - o The shorter the seeds are in the tray of the seeding machine, the less risk of attracting water.
- In the soil
 - o Here it should attract water

If water is attracted by the enhanced seeds, the coating might swallow and is easily rubbed off. The rub-off influences the flow of the enhanced seeds through the machine. Too much accumulation of rub-off causes problems, because the rub-off also attracts water and will stick to the machine.

Friction

YJWM gives the seeds a rougher surface:

- This causes friction between the seeds and that will influence the flow through the machine.
- This might cause bridge forming in the tray. Bridge forming is influenced by:
 - o Transport: gives vibrations. Vibrations may compact the seeds in the tray.
 - o Amount of seeds: the more seeds are in the tray, the more compaction.

If bridge forming occurs, the rotating axes in the seed trays might also rub-off the enhancement physically. Most seeding machines have rotating axes to force seeds through holes/pipes. If this axe keeps on turning and seeds are not able to flow away, the enhancement is being rubbed off by this axe. The rub off accumulates in the tray and might cause problems with the flow of seeds through the machine. See also "Moisture".



Machines and action

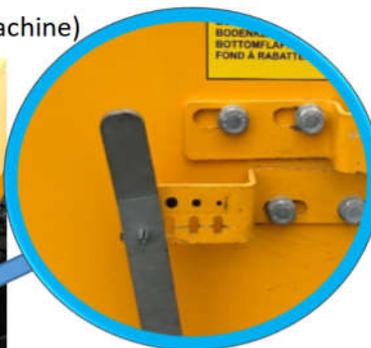
Vredo

The vredo machine has 2 settings:

1. Setting for dose (left side of machine)



2. Setting for flow (right side of machine)



4 settings for the bottom valve



Typical rotating axes in seed trays.

Contact:

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Vredo instruction

- For a proper flow of seeds in the right dose, the following machine settings are recommended:
 1. Dose setting: put it on normal seeding rate as with un-enhanced seeds,
 2. Flow setting (also called 'Bottom valve'): normally it will be on 1 or 2 (smallest black dots = small gap between dose unit and bottom valve). Put it on setting 3 or 4 (biggest black dots = more space between dose unit and bottom valve).
- Don't put too much seeds in the tray.
- Fill the tray at the location where you will use it, avoid transport distances.
- Don't leave seeds in the tray after use, but empty and clean the tray after use.
- Store the machine inside.

Other machines

In general:

- If there are valves that determine the dose of seeding: better start with a wide opening and screw it back in order to come to the right setting than to start with a small opening and go wider. If the opening is too small, the axes will rub off the enhancement of the seed and the fine particles of the enhancement will negatively influence the flow of seed through the machine. Do a trial in the barn on plastic to determine the right settings.
- Don't put too much seeds in the tray.
- Fill the tray at the location where you will use it, avoid transport distances.
- Don't leave seeds in the tray after use, but empty and clean the tray after use.
- Store the machine inside.