

# BIO-SAVE® 10 LP

## POTATO AND POTATO SEED PIECE USE AND SAMPLING INSTRUCTIONS

Bio-Save® is an effective means of controlling certain storage diseases of both potatoes and potato seed pieces. Proper application and monitoring of Bio-Save® is essential to effective use. Please follow these supplemental use and demonstration guidelines. Please contact Bio-Save®, our field representative or distributor with questions.

### POTATO TREATMENT

#### A. EQUIPMENT SETUP

1. Locate applicator near or attached to piler.
2. Terminate the 110v power cord for the applicator to an interlock or starter that powers the piler conveyor belt motor. (Terminate 110v to outlet if interlock or starter is not accessible.)
3. Attach sufficient nozzle hose on piler to reach desired location for nozzle bank.
4. Attach nozzle bar at the desired location on the piler.
5. Couple nozzle hose to output line on applicator and to nozzle bar.
6. Application equipment should have nozzles that apply as little water as possible while still achieving good coverage. Teejet full cone TX-VS 2,3, or 4 gallons per hour have found to be very effective. If spray fogs, tarp over the area.

#### B. MIXING/LOADING

Bio-Save® 10 LP is a freeze-dried powder. It is packaged in a double-bagged foil pouch. The material is stored at refrigerated/freezer temperatures until ready for use.

- 1) **Add one 500 gram pouch of Bio-Save® 10 LP to 30-40 gallons of water. One Pouch treats 3000 sacks.**

We recommend mixing only as much material as needed for a 24–48 hour working day. If the Bio-Save clumps when mixing, add a packet to one-

two gallons of warm water in a pail. Mix with a whisk until completely dissolved and then add the remaining water.

- 2) Mix and continue agitation throughout the application.

Agitation allows the active ingredients in the Bio-Save® 10 LP to utilize the oxygen blended into the suspension, allowing the material to remain active longer.

Our studies to date show the material is active up to 48 hours after mixing.

- 3) Apply Bio-Save® 10 LP through a spray application system turning rollers or at a transition period on the line. Use a rate of a 500-gram pouch of Bio-Save® 10 LP to 3000 sacks of potatoes.

When using a spray application system do not allow the material to mist or you will lose viable material into the air. Tarp spray area to capture product and allow for best application.

#### C. APPLICATION

1. Start the piler and check applicator to make sure all parts are functioning properly.
2. Check nozzles and nozzle hose line for leaks.
3. Mix and load tank when needed.

#### D. CLEANUP

- 1) **Flush and clean** the Bio-Save® solution out of the application equipment and mixing tank **after each use**.

Flush lines with water at 30-40psi for about 15 minutes.

Bio-Save® is a bacterium. If not properly cleaned, the lines and the applicator will get plugged and a biofilm will grow and interfere with the Bio-Save® application.

- 2) Rinse the application system with fresh water after each use.

**3) Sanitize and rinse** the application equipment, mixing container, and conveyor system equipment **every 14 days**.

It is most important to flush the system with fresh water on a regular basis. Flush the sanitizer very well with fresh water. Sanitizer in the lines will reduce the Bio-Save® counts on the potatoes.

Sanitize with sanitizing solution for five to ten minutes.

After sanitizing, rinse with water at 30-40psi for about 15 minutes.

**Do not use a quaternary compound or high level of sanitizer. These products leave a residual and may kill the Bio-Save® or reduce the efficacy during your next application.**

#### E. PROPER HANDLING

Bio-Save® 10 LP is packaged in a foil pouch. Store the Bio-Save® 10 LP at refrigerated temperatures or lower (freezer). The lower the storage temperature the longer the product can be stored.

Do not allow Bio-Save® to be in temperatures above refrigeration for more than 24–48 hours. Storing above the recommended temperatures will reduce the products effectiveness.

For additional information handling or storing these very cold materials, please contact Jet Harvest Solutions/Bio-Save® at 1-877-866-5773.

#### F. SAMPLING

##### 1. Wounding Samples

Objective: to wound the potato for analyzing Bio-Save® viability in the wounded tissue

##### Materials Needed:

Potatoes  
Potato-wounding tool 1mm X 3mm (approximate paper clip size)  
Permanent marker  
Electrical tape

##### Procedure:

- 1) Randomly take 5–10 potatoes. Mark them individually with a permanent marker color or electrical tape so they can be picked up after treatment.
- 2) Punch 2 holes per potato with the potato-wounding tool (Bio-Save® will supply). The wound dimension is about 1 mm in diameter and 3 mm in depth. Circle the wounds with a black permanent marker so that the lab can easily find the wounds.
- 3) Return the wounded potatoes to its population to receive Bio-Save® and/or other treatments.
- 4) Pick up the potatoes after treated. Keep the potatoes in a plastic bag with 1–2 holes.

### Shipment of Samples

- 1) Samples should be identified using a Bio-Save® **Information Sheet**. Please complete all the questions on form.
- 2) For the best and most accurate results, ship the samples in a plastic bag **with some air holes**, along with the information sheet.
- 3) Place the bags of samples in a box, along with the information sheet and ship.
- 4) Ship via 2<sup>nd</sup> day Fed Ex, UPS or others. Our shipping address is on the Bio-Save® **Information Sheet**.

PLEASE READ AND FOLLOW THE BIO-SAVE® 10 LP PRODUCT LABEL