

POTATOES - SPROUT INHIBITOR

General Information

General: SmartBlock provides effective long-term sprout control by destroying the growing meristem of sprouting potato tubers and “burning off” sprouts. Further sprouting of potatoes is prevented for up to three (3) months or more depending on variety, sprout length, use rate and storage conditions.

Use Precautions:

- Do not make applications to potatoes in the field.
- Do not use on seed potatoes. Do not allow the thermal fog to come into contact with or to enter areas used for storage of seed potatoes, potato handling or cutting equipment.

Seed potatoes can be safely stored in potato storage which were previously treated with SmartBlock only after full ventilation and clean out procedures have been followed. The air system including ducts, plenums and the storage building itself must be thoroughly ventilated prior to storing seed potatoes.

- Follow all application equipment manufacturers’ use directions.
- Do not enter the treatment area during application. Unless equipped with the required PPE, do not reenter the treatment area for 24 hours after treatment and until the ventilation period is completed. Continue to run ventilation fans as necessary to introduce fresh air into the storage.

Directions for Use:

SmartBlock can effectively leverage the natural dormancy of potatoes when used according to label directions. SmartBlock is generally used just prior to or during the time when the tuber dormancy period is ending. An application should preferably be made when the tubers display “peeping” sprouts but more advanced sprouting can also be treated and controlled (see Sprout Control Programs below). The interval between harvest and the onset of sprouting is dependent on the cultivar and storage temperature.

The preferred method of application is through standard aerosol (thermal fogging) equipment.

Thermal fogging provides the most efficacious and consistent sprout control.

Excellent movement of the fog or vapor through the potato pile is also important for

consistent efficacy.

Procedure for Thermal Fogging with SmartBlock:

1. Calculate the quantity of SmartBlock required based on total tonnage and condition of tubers in storage prior to application.
2. Prepare aerosol/fog/vapor generating equipment and insert intake hose into the container with SmartBlock.
3. Configure settings such that the ventilation fans are set at proper speeds to recirculate with adequate pressure to move the fog or vapor through the potato pile. Turn off all humidifier units and ensure a good seal of the storage to prevent leakage. These steps will ensure good distribution of SmartBlock inside the storage.
4. Place the exhaust end of the aerosol/fog or vapor generator into the air mixing chamber. Potato storages vary greatly in design and air movement patterns. It is therefore advisable to work with your local custom applicator to ensure accurate applications under optimal conditions are made.
5. Adjust flow rate of SmartBlock through the equipment to match the appropriate fogging temperature. Do not allow the product to dribble out at the introduction point. Important: Follow all equipment safety precautions.
6. For best results, restrict or avoid intake of outside air into the storage during SmartBlock application.
7. Turn on the fogging equipment and allow the SmartBlock aerosol, fog or vapor into the storage facility's mixing chamber or plenum. Operate the ventilation fans to cycle and recirculate the fog through the pile for up to 24 hours. For processing varieties, recirculating vapor for a period of 8 to 12 hours may be adequate prior to resuming the normal ventilation schedule.
8. After the recirculation period is complete, return the ventilation system to the desired operational mode and allow fresh air or outside air into the potato storage facility.
9. Within 1-5 days following application, buds or sprouts on tubers should exhibit a blackened or "burnt" appearance. However, depending on the potato variety, sprout size and use rate of SmartBlock, it may take up to 7 to 10 days after treatment to observe full effects (including extended shelf life of tubers).

Sprout Control Programs with SmartBlock:

General Use Directions

SmartBlock treatments should preferably be made towards the end of tuber dormancy and to effectively leverage the natural, sprout-free dormancy period. Non-

sprouting tubers may also be treated in anticipation of dormancy break as well. For best results, make the first application when approximately 75% of tubers show visible signs of sprouting (peeping) or exhibit signs of early dormancy break (swollen buds). A SmartBlock treatment program can effectively provide season-long sprout control. SmartBlock potatoes can be removed or unloaded from storages and shipped 24 hours after ventilation is resumed. For full effect, unload the storages 7 to 10 days after treatment to ensure that sprouts are sufficiently blackened and adequate shelf life is achieved.

Combinations of SmartBlock with other Sprout Control Products:

SmartBlock can also be used effectively with other sprout control products such as chlorpropham (CIPC). DO NOT use in combination with dimethyl naphthalene (DMN). When mixing with CIPC, or other sprout control products, especially during the early period of the storage season, or as part of a planned sequential program, lower rates of SmartBlock may be used. Follow all product label instructions and use precautions. Consult your local custom applicator for more information.

(i) Sprout Control in Potatoes undergoing Reconditioning:

When stored at low temperatures, reducing sugars increase in tubers and decrease the fry quality of potatoes. Such tubers can be reconditioned by raising the storage temperature and lower reducing sugar content. Such conditions, however, favor sprouting. SmartBlock can be used effectively to burn off sprouts during the reconditioning phase prior to shipment. For best results, do not allow sprouts to exceed 1 inch (2.5 cm) on average, at the time of treatment.

(ii) Rescue of Potatoes with Excessive Sprouting in Storage: In cases where storage conditions lead to undesirable sprouting, especially during late in the storage cycle, SmartBlock can be effectively used to “burn off” sprouts which on average, measure up to 1 inch (2.5 cm) and restore dormancy.

Limitations, Restrictions, and Exceptions

Application Rate: Apply SmartBlock up to a maximum of 4.20 fl. oz. per ton or 0.21 fl. oz./cwt potatoes. One gallon of SmartBlock will treat 610 cwt. potatoes at the maximum use rate. Reapply SmartBlock as needed. Use lower rates when sprouts are small or when a shorter period of sprout control is acceptable or when used in combination with other sprout control products.

Minimum re-application interval is 7 days.

Method

[Fogging](#)

[Aerosol treatment](#)

Rates

[field rates 0](#)

[field rates 1](#)

-

Restricted Entry Interval

24 hours

Timings

When approximately 75% of tubers show visible signs of sprouting (peeping) or exhibit signs of early dormancy break (swollen buds).