

Use up to 4.2 fl oz per ton of potatoes

Up to 7 months sprout control

SBK-1504 Application Guide_2.12.16.indd 1-3

98% pure 3-decen-2-one active ingredient

No need to apply until 75% of tubers show first signs of sprouting

effectively controls sprouts finch

smart**block**

THE BREAKTHROUGH SPROUT **INHIBITOR FROM AMVAC.**

SmartBlock (3-decen-2-one) is a unique, patented and novel potato sprout control product, chemically described as an alpha-beta unsaturated aliphatic ketone. 3-decen-2-one has been approved by the U.S. Food and Drug Administration (FDA) as a direct food additive (21CFR 172.515) to enhance and create new flavorings in many beverages and baked goods. The Flavorings and Extract Manufacturers Association (FEMA) has designated 3-decen-2-one as Generally Regarded As Safe (GRAS). It also occurs naturally in yogurt, fish (tuna), soy, ham and many other foods and spices. In 2013, U.S. and Canadian regulatory authorities approved SmartBlock exclusively for post-harvest potato sprout control.

UNIQUE, PATENTED AND NOVEL SPROUT **CONTROL SOLUTION**





SmartBlock Mode of Action: SmartBlock is highly selective and destroys only the fresh sprouts on potatoes. It attacks the actively growing meristematic tissue, destroys membrane integrity, increases oxidative stress and inhibits the ability of cells to neutralize reactive oxygen species. The collapse of cell structure leads to the sprouts exhibiting a "burnt out" appearance due to dark pigmentation produced by the accumulation of polyphenols.





Why SmartBlock? SmartBlock effectively eliminates sprouts in stored potatoes, even after peeping has begun.* Unlike essential oils such as clove oil, SmartBlock not only provides good "burn" of the small sprouts but effectively eliminates longer sprouts (up to one inch) as well. When used as a stand-alone treatment, application of SmartBlock is made after dormancy break, allowing you to take advantage of the potato's natural dormancy period.

If your goal is to reduce the residue of chlorpropham (CIPC) on potato tubers, a customized sprout control program with SmartBlock or a low-rate CIPC plus SmartBlock combination program may be the answer. Growers have experienced tremendous success with stand-alone SmartBlock treatments or with SmartBlock plus CIPC combinations, which results in an overall increase in sprout control.*

When Do I Apply SmartBlock? Unlike CIPC, which is applied initially after tuber suberization and wound healing phases are completed in storage (around two to three weeks after storage loading), SmartBlock can be applied anytime between when the potatoes show early signs of dormancy break and full sprouting. Mixing SmartBlock and CIPC can provide the double benefit of burning off any sprouts and restoring dormancy to the tubers early in the storage cycle. Read the full SmartBlock label for complete use directions.

How Long Will Sprout Control Last? In fresh

pack potatoes, SmartBlock provides an extended period of sprout control of up to six or seven months depending on potato variety, rate, temperature and other storage conditions. When tubers are stored at 46 °F or higher, for medium to short dormancy varieties, around two to three months of sprout control can be expected.

ADVANTAGES OF SMARTBLOCK

Effective: SmartBlock is a fast-acting and highly effective product, which has been tested globally on many potato varieties and storage conditions. Always pre-test sensitive potato varieties prior to large-scale use.

Flexible: SmartBlock can be combined with low rates of CIPC to substantially reduce CIPC residues on potatoes, or as a stand-alone treatment. In storages where CIPC has failed to control sprouting, SmartBlock can be used to restore dormancy.

Efficacious Mixtures: SmartBlock is an excellent solvent for CIPC, aiding the movement of CIPC within storages. Overall sprout control is improved due to better penetration and distribution of CIPC and SmartBlock in the potato pile or boxes. Unsightly CIPC residue on walls, fans and vents is minimized when combined with SmartBlock.

Easy Movement of Vapor: SmartBlock has a high vapor pressure and therefore moves easily between the potato-to-potato air spaces to attack developing sprouts that are normally inaccessible to other sprout control products.

Long Residual Activity: After sprouts have been burnt off, SmartBlock restores dormancy to potatoes for two to seven months, depending on variety and storage conditions.

Improvement of Turgidity: SmartBlock-treated potatoes can be more turgid, which effectively reduces pressure bruising and overall shrink in storages. More turgid tubers also benefit from lower disease pressure due to better air movement and aeration.

Storage Diseases: Use of SmartBlock can result in lower incidence of certain diseases and suppress diseases in storage.

Rescue Treatments: SmartBlock is the only proven product in the market that can rescue heavily sprouted tubers by eliminating elongated sprouts, making undesirable potatoes marketable again.

Green Chemistry: SmartBlock breaks down in the environment into naturally and widely occurring products such as 2-decanol and 2-decanone, which also have sprout-control activity.*

Exempt From Tolerances: U.S. and Canadian regulatory agencies have exempted SmartBlock from the reguirement of a tolerance (also known as Maximum Residue Limit or MRL). Global MRL exemptions are pending.

Improves Potato Quality: SmartBlock-treated potatoes have been shown to retain or improve overall quality when evaluated for taste, texture, sugar levels, color and skin finish.

EFFICACY OF SMARTBLOCK® AND CIPC FOR SPROUT CONTROL ON RUSSET BURBANK POTATOES



Dr. Barbara Daniels-Lake, Canada 2011. Potatoes were stored at 48.2 °F (9 °C). SmartBlock was applied at 4.2 oz/ton twice and CIPC was applied once at 22 g/ton. Arrows indicate the treatment dates. Trial No. 11-IR-AMV1018-07

Pre-treatment





Covered by SmartBlock patent numbers 6.855.669, 8.258.081 and 8.999.419.





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Dr. A.J. Bussan, University of Wisconsin 2009. One application of SmartBlock at 4.2 oz/ton and CIPC at 22 g/ton were made as indicated by the arrows. Potatoes were stored at 39.0 °F (3.9 °C). Trial No. 09-WI-AMV1018-06

COMMERCIAL POTATO STORAGE (~2,600 TONS) IN IDAHO – TREATED WITH ONE APPLICATION OF SMARTBLOCK[®] (rescue treatment)

SmartBlock-treated tubers 14DAT1



After washing and brushing





Effect of SmartBlock on Tuber Respiration



Dr. Lisa Knowles, Washington State University 2013 (48.2 °F)







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