

BITOXYBACILLIN™

BIOLOGICAL INSECTICIDE

BITOXYBACILLIN™ is a **biological insecticide** meant to protect plant from insect pests: red spider mite, Colorado beetle (larvae instar I-III), worms of cabbage, grass, meadow, silkworm, geometrid, apple, ermine moths, cabbage white, turnip and whitehorn butterflies, leaf rollers and others.

PRODUCT FORMULATION

Bitoxybacillin™ active agents are bacterial spores, protein crystals (delta-endotoxin) and heat-stable -exotoxin of *Bacillus thuringiensis* var. *Thuringiensis*. Inert fillers provide product integrity, flowability, adhesiveness and stability.

MODE OF ACTION

Crystalline protein of Bitoxybacillin™ determines its intestinal action. After ingestion by pest, the product causes intestine dysfunction, thus lowering pest feed rates. Product -exotoxin, permeating across intestinal tract and skin cover into insect body, supresses RNA synthesis in pest cells. Pest mass mortality begins on the 3rd-7th day. Sublethal doses od Bitoxybacillin™ inhibit feeding, break metamorphosis periods, decrease female prolificacy and next generation viability (antifeedant and metatotoxic effects).



Product main characteristics

Item	Standards
Appearance and colour	Pale-beige to brown powder
Bioloical activity, UA/mg, n.l.t.	1500
Exotoxin content,%	0,6-0,8

Commodity form: powder Bitoxybacillin™ P
Shelf life: 18 months at (-30) - (+30)°C.
Packaging: packed by 15 kg, 20 kg into hermetically sealed polyethylene bags.



In agriculture, Bitoxybacillin™ is applied to vegetable and fruit crops and medicinal herbs.

Bitoxybacillin™ is applied by means of plant spraying with any available ground spraying devices. Product is recommended to be applied in dry weather in the morning or evening. Maximum protective effect of Bitoxybacillin™ application is achieved when treating trees and bushes at early (I-III) larvae instar at (18-30)°C air temperature. Bitoxybacillin™ is safe for people, warm-blooded animals, fish, hydrobionts, bees and entomophages when applied at proper consumption rates.

PRODUCT MAIN ADVANTAGES

- Effectively destroys wide variety of lepidopterous insects, red spider mites, Colorado beetle worms and other pests.
- Is not phytotoxic, not accumulated in plants and fruits
- Ensures eco-friendly and safe products
- May be applied at any stage of plant growth
- Safety interval is 5 days, thus, crops may be treated shortly before harve sting
- Is compatible with chemical pesticides and biological products when applied in tank mixtures and within integrated plant protection system
- May be applied to solve the problem of pest resistance to chemical pesticides.

Bitoxybacillin™ consumption rates to control most abundant leaf-eating pests

Crop	Pest	Consumption rate
Greenhouse crops	Red spider mite	10-30 kg/ha
Flowers and herbs	Meadow, noctuid, geometrid moths leaf rollers, painted lady	2-3 kg/ha
Nightshade family	Colorado beetle	2-5 kg/ha
Vegetable crops	White butterflies, meadow, noctuid, pyralid moths	1-2 kg/ha
Fruit crops and berries	Leaf rollers, fall webworm, apple worm, whitehorn butterfly, sawflies, red spider mite, pyralid, geometrid and silkworm moths	2-5 kg/ha
Grapes	Grape moth	6-8 kg/ha