

# Sesamin EC

## General Recommendations

SESAMIN EC is a naturally derived nematicide for the control of parasitic nematodes on most crops including but not limited to:

**Legumes & Fruiting Vegetables:** Beans, Eggplants, Lentils, Peas, Peppers and Tomatoes.

**Bulb, Cole & Leafy Vegetables:** Broccoli, Cabbage, Cauliflower, Cucumbers, Lettuce and Onions.

**Root & Tuber Vegetables:** Carrots, Potatoes, Radishes, Turnips and Sweet Potatoes.

**Herbs & Spices:** Anise, Basil, Dill, Mint, Peppermint, Thyme and Oregano.

**Small Fruits & Berries:** Strawberries, Blackberries, Blueberries and Cranberries.

**Nuts:** Almonds, Cashews, Pecans, Pistachios and Walnuts.

**Field Crops:** Alfalfa, Cotton, Tobacco, Soybeans and Corn.

**Citrus, Pome, Stone and Tropical Fruits:** Apples, Apricots, Bananas, Lemons, Grapefruits, Pears, Plums, Prunes, Dates and Olives.

**Grasses:** Grown for seed or sod.

<b>Active Ingredient</b>	
Sesame Oil .....	70.0%
<b>Other Ingredients</b>	
Lecithin, Water .....	30.0%
Total .....	100.0%


## Recommended Rates

SESAMIN EC should be applied at a minimum rate of 2 to 4 quarts per acre per growing season. SESAMIN EC should be applied at a minimum of 2 applications per 12 week cycle. If nematodes persist, apply every 10 to 15 days depending on crop health.

### Application Instructions

If irrigation (the preferred application) is not available, soils may be sprayed with conventional spray equipment. After spray application, water thoroughly both plant and soil to assist SESAMIN EC reaching the root level of the infected plants and not to remain on the leaf. When being applied by drip, only calculate the acreage under drip rather than the entire field.

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Naturally Derived  
Parasitic Nematode Control  
**Sesamin EC**



# Sesamin EC

Naturally derived, no REI, minimal risk pesticide effective on parasitic nematodes

## Nematodes

Each year, millions of agricultural acres around the world come under threat of damage due to the activity of parasitic nematodes. Many soil samples assessed by diagnostic laboratories are showing the presence of one or more species of parasitic nematodes.

### The major species include:

- Belonolaimus spp. (Sting)
- Hoplolaimus galeatus (Lance)
- Heterodera spp. (Cyst)
- Helicotylenchus spp. (Spiral)
- Hemicylophora spp. (Sheath)
- Macroposthonia spp. (Ring)
- Meloidogyne spp. (Root-knot)
- Paratrichodorus spp. (Stubby-root)
- Pratylenchus spp. (Lesion)
- Xiphinema spp. (Dagger)

Nematodes are microscopic, thread-like eel/worms which attack a wide range of plants. They tend to prefer well drained sandy soil conditions, typical of that which many crops are grown in. Nematodes cause direct damage to the roots of target plants. With their piercing and sucking mouth parts, plant cells are damaged resulting in tissue breakdown and death of roots.

Nematode affected corn roots

Photo by Tom Hillyer



Plants under stress, by their nature, have a shortened root system, to which damage from nematodes becomes even more significant. A damaged root system decreases the ability of the plant to take up water and nutrients required for growth. Nematodes increase the susceptibility to heat and drought stress. The wounds caused by nematodes provide entry for secondary fungal infections.

## About Sesamin EC

Based on patented development work as a naturally derived control for parasitic nematodes, SESAMIN EC is derived from extracts of specific cultivars of hybrid sesame plants. The mode of action includes nematotoxic and nemastatic effects and possibly disruption of nematode taxis to roots. These results account for the use of sesame for many centuries in crop rotation for its residual nematicidal benefits to crops following sesame.

Versatile SESAMIN EC is effective on both Ectoparasitic and Endoparasitic nematodes. Ectoparasitic nematodes always live outside the plant root, and feed only on materials they can reach, while Endoparasitic nematodes spend at least part of their life cycle inside the roots of the plants on which they feed. Some parasitic nematodes are migratory, and move in and out of root tissues, while some are sedentary and effectively don't move at all.

### FIFRA 25B Exempt Pesticide

This product has not been registered by the United States Environmental Protection Agency. It is exempt from registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA 25B) as a minimal risk, naturally derived pesticide. All active ingredients contained in these formulations are contained in 40 CFR 152.25, as well as list 4A of the Federal Register.

## Research

### Cucumbers greenhouse grown for export in southern Greece 2007

During a commercial application, photos were taken to show the effect of SESAMIN EC on the health of a crop infested by nematodes. The photo pairing on the right shows how the root systems have been ravaged by parasitic nematodes before application, whereas within 10 days post application, the plants have clearly grown new roots and shoots. The photo pairing on the far right depicts the visible change in overall plant health as a result of controlling the nematode population.



Before Sesamin EC



Before Sesamin EC



After Sesamin EC



After Sesamin EC

### Australian Efficacy Trial 2003

**Application:** SESAMIN EC (25% Sesame Oil) at rate 100mL/100m<sup>2</sup> (3.2oz/1,000 sq ft or 1 gallon/acre).

**Trial Design:** Each site set out in a randomized block design with four replicates, giving a total of 12 plots. Plot size was 2.5 meters x 4 meters, with 1 meter headland between blocks.

Material	Time After Treatment	NEMATODE COUNTS				
		Lesion	Stubby-Root	Spiral	Sheath	Root-Knot
Control	Initial Pop	202	675	202	23	450
SESAMIN EC	Initial Pop	202	675	202	23	450
LSD (p<0.05)		ns	ns	ns	ns	ns
Control	3 WAT	150 a	260 a	444 a	125 a	629 a
SESAMIN EC	3 WAT	0 b	226 a	6 b	75 ab	32 b
LSD (p<0.05)		114	ns	121	62	185
Control	6 WAT	171 a	273 a	528 a	147 a	687 a
SESAMIN EC	6 WAT	2 b	148 b	15 b	78 b	52 b
LSD (p<0.05)		64	96	43	21	80
Control	12 WAT	115 a	225 a	230 a	5 a	450 a
SESAMIN EC	12 WAT	34 b	338 b	158 b	68 b	180 b
LSD (p<0.05)		12	67	45	17	63

