



# StartUp 22% FS™

StartUp 22% FS™ is a seed dressing insecticide/fungicide for control of seed borne diseases and early insect pests in maize and Beans.

## Active Ingredients

Thiamethoxam 200g/L + Fludioxonil 10g/L + Difenoconazole 10g/L

### Thiamethoxam

#### IRAC group 4 Nicotinic acetylcholine receptor (nAChR) competitive modulators

Thiamethoxam is a systemic insecticide with broad spectrum activity. Thiamethoxam is absorbed quickly by plants and transported to all of its parts, influencing insect pests through stomach and contact action. The mode of action of thiamethoxam is through modulation of the acetylcholine neurotransmitter in the insect's nervous system. It affects the pests in multiple ways, ultimately causing lethargy and paralysis, which disable the pest's capability to damage the seeds.

### Fludioxonil

#### FRAC Group 12 (E2) Signal transduction: MAP/Histidine-Kinase in osmotic signal transduction (os-2, HOG1)

Fludioxonil is a fungicide, one of only 2 actives in the phenylpyrrole chemical group. Fludioxonil has long lasting effect and broad spectrum activity, with a novel mechanism. It is suggested that through modulation of protein kinase phosphorylation activity fludioxonil lowers the growth rate of the mycelium and inhibits spore germination.

### Difenoconazole

#### FRAC Group 3 (G1) Sterol biosynthesis in membranes: C14-demethylase in sterol biosynthesis (erg11/cyp51)

Difenoconazole is a highly systemic, broad spectrum fungicide from the triazole chemical group. Difenoconazole stops development of fungi by interfering with biosynthesis of sterols in cell membranes.

## Characteristics:

- Broad spectrum of activity.
- Provides excellent seed protection against wide range of soil borne diseases and insects.
- Contains 3 substances with different mode of action ensuring persistent efficacy while maintaining reduced resistance risks.
- **StartUp 22% FS™** protects the crops from the storage stage, through planting and including the young seedling stage.





## Directions for Use:

**StartUp 22% FS™** should be mixed with water to create pre-mix slurry that is ready for use and can be applied with any type of seed treatment or spraying equipment. Apply the treatment on the seeds immediately following preparation.

Mix thoroughly. Ensure full and uniform coverage of the seeds with the pre-mix slurry to achieve maximal efficiency. Ensure thorough seed coating coverage by correct calibration of the equipment.

Repetitive/continual use of **StartUp 22% FS™** can lead to pesticide resistance. Always alternate with different mode of action pest control products to prevent resistance development.

## Rate of Application:

**StartUp 22% FS™** is effective against a variety of seed borne diseases and early insect pests, including but not limited to:

Crop	Target Diseases/Pests	Application rate	Timing & frequency of application
Maize, Wheat, Soya beans, Barley	Early season pests (Aphids, Stalk bora) and Soil borne diseases (seedling blight, root rot caused by Pythium, Rhizoctonia, Fusarium and Penicillium)	2 ml/Kg seed	One application as a seed dresser.

## Field Trials

Field trial to test the efficacy of different rates of **StartUp 22% FS™** against Stalk Borer and Seedling blight in Maize.

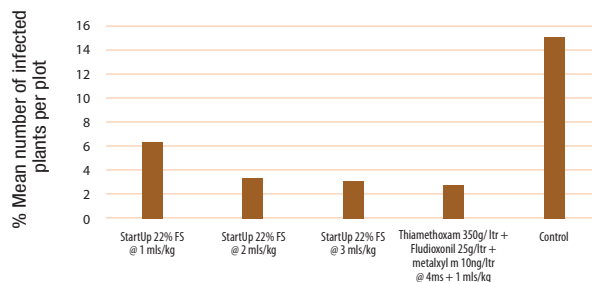
**Location:** Kenya, 2018  
**Crop:** Maize  
**Target pests:** Stalk Borer and Seedling Blight



**Stalk Borer infestation at various assessment intervals**



**Plants exhibiting Seedling Blight following various treatments**



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