



Fortenza™ Duo

A COMBO-PACK CONTAINING

FORTENZA® 600 FS

A broad spectrum flowable concentrate insecticide used as a seed treatment for the control against soil and foliar chewing insects in Lepidoptera species and argos species in maize seed.

Active ingredient content: Cyantraniliprole..... 600 g/l

IRAC: INSECTICIDE GROUP CODE 28

HAZARD STATEMENT

Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENTS

Collect spillage

Before opening the container, read the safety advice

KEEP LOCKED UP OUT OF REACH OF CHILDREN

Shelf life:

Atleast 2 years from date of manufacturing, in original unopened containers stored in a cool dry well ventilated place.

Manufactured by

Syngenta Crop Protection AG
Basel, Switzerland

Distributor

Syngenta Zambia Limited
Plot No. 5255 Mukwa Rd
P.O. Box 33088 Lusaka, Zambia

Emergency Call Number: Swiss Toxicological Information Centre (24 h) +41 44 251 51 51
Local Information Centre: +260211244766

® = Registered Trademark of a SYNGENTA Group Company

NET CONTENT: 2 x 5 LITRE



CRUISER® 600 FS

FS Formulation: Flowable Concentrate for Seed Treatment

A systemic seed treatment insecticide for the control of leafhoppers (*Cicadulina mbila*), snout beetles (*Systates* spp. *Mesoleurus dentipes*) and false wireworms in maize crops (and for the control of storage insects such as Larger Grain Borer (*Prostephanus truncatus*), Lesser Grain Borer (*Rhizopertha dominica*), Weevils (*Sitophilus* spp.), Flour Beetle (*Tribolium* spp) and Moths (*Plodia interpunctella*) in stored maize seed.

Active ingredient content: Thiamethoxam600 g/litre

Chemical group: **Neonicotinoid**

HAZARD STATEMENT

May cause an allergic skin reaction
Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENTS

Avoid breathing dust/ fume/ gas spray
Collect spillage

Before opening the container, read the safety advice

KEEP LOCKED UP OUT OF REACH OF CHILDREN

Shelf life:

Atleast 2 years from date of manufacturing, in original unopened containers stored in a cool dry well ventilated place.

Manufactured by

Syngenta Crop Protection AG
Basel, Switzerland

Distributor

Syngenta Zambia Limited
Plot No. 5255 Mukwa Rd
P.O. Box 33088 Lusaka, Zambia

Emergency Call Number: Swiss Toxicological Information Centre (24 h) +41 44 251 51 51
Local Information Centre: +260211244766

® = Registered Trademark of a SYNGENTA Group Company

NET CONTENT: 2 x 5 LITRE



PRODUCT INFORMATION

1. PRODUCT PROPERTIES

FORTENZA DUO is a systemic seed dressing insecticide with long residual action. It is a broad-spectrum insecticide containing the active ingredients cyantraniliprole and thiamethoxam. Cyantraniliprole belongs to the anthranilic diamide class of chemistry (group 28) and is considered to be a ryanodine receptor modulator as it has the ability to mimic the compound ryanodine and activate insect ryanodine receptors. Once applied as a seed treatment, the compound is quickly taken up by roots and moves upward into the plant through the xylem system. It is a fully soil systemic product. Insects are controlled mainly by ingestion, but some contact activity can also be observed. Thiamethoxam is a targeted broad-spectrum insecticide with residual activity. It displays root-systemic activity. In the targeted insect it shows quick stomach and contact action. Thiamethoxam is considered to act by interfering with the nicotinic acetyl choline receptor of the nervous systems of insects.

FORTENZA DUO provides excellent crop protection resulting from a rapid feeding inhibition and long-lasting residual effect. When applied as a seed treatment, the active ingredients of **FORTENZA DUO** are able to prevent the damage of insects since the early development of crops, bringing a better crop establishment, resulting in an increased and higher quality yield

FORTENZA DUO is distributed with the water in the roots zone protecting the plants from soil-dwelling pests, such as grubs and wireworms. It is also taken up by the roots and moves upwards, controlling above-ground early leaf feeding and sucking insects, such as aphids, chewing pests, thrips, leaf and stem feeding coleoptera species and broad spectrum lepidopteran species.

As a seed treatment the product fits very well into IPM ruled crop protection schemes.

2. WARNINGS

Withholding periods: (minimum number of days between last application and harvest or grazing).

MAIZE..... 28 days

- Do not graze crops of which the seed has been treated within 28 days after emergence.
- Treated seed must not be used for human or animal consumption.
- Flammable - Do not store or use near heat or open flame.
- Harmful if swallowed.
- May cause skin irritation or an allergic skin reaction.
- Causes serious eye damage and / or irritation
- Very toxic to fish and aquatic life with long lasting effects.
- Toxic to bees and other pollinators. The use as seed treatment agent will not damage bees and other pollinators if use recommendations are followed.
- Keep container tightly closed and store in a well-ventilated, cool and dry place. AVOID storage above +35°C.
- Store away from food, feed and drinking water.
- Keep locked up and out of reach from children, uninformed persons and animals.
- DO NOT stack containers in piles more than 2 m high, in order to avoid product compaction.
- Treated seed should not be carried over from one season to the next. Treat only seed that is to be planted during the same season.

Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions, since the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions, quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of a pest against the remedy concerned as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal or lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions, which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

3. PRECAUTIONS

- Wash with soap and water immediately after use or in the event of accidental skin contact.
- Wash contaminated clothing after use. Change working clothes daily.
- Do not eat, drink or smoke while handling the product or before washing hands and face.
- Wear suitable protective clothing: Always wear overalls and heavy-duty shoes or boots.
 - Additionally:
 - During Slurry preparation and / or application, use chemical-resistant gloves and eye protection.
 - When cleaning, wear chemical-resistant disposable coverall (i.e. Tyvek) worn over normal work clothing, gloves and suitable respiratory protection.
 - When handling treated seed, wear chemical-resistant gloves.
- AVOID any contact of skin, eyes or clothing with concentrate or application slurry.
- DO NOT breathe vapour or spray mist.
- Bury all treated seed spilled on soil surface. Rinse spill area with plenty of water.
- Spilt product must not be re-used.
- Avoid contamination of other crops, grazing, rivers, dams and boreholes.
- Clean applicator and mixing utensils after use. Dispose of rinsate where it will not contaminate crops, grazing, rivers, dams and boreholes.
- Prevent contamination of food, feed, drinking water and eating utensils.
- After work: Wash thoroughly (shower, bath, wash hair). Wash hands and face thoroughly. Change clothing. Thoroughly clean protective gear. Thoroughly clean contaminated equipment with soap or soda solution.
- Mark bags containing treated seed clearly.
- During planting, treated seed must be completely covered with soil. Do not use excess seed as feed for birds or animals. Prevent contamination of water intended for household or irrigation purpose.
- Rinse the empty container three times with a volume of clean water equal to a minimum of 10 % of the container. Add the rinsate to the contents of the spray tank before destroying the empty container.
- Destroy empty container by perforation.
- Burn empty container or bury, after perforation, in a safe place.
- Do not use empty container for any other purpose.

4. FIRST AID

If poisoning is suspected, stop work immediately and call a physician. Show label to the physician.

Have the product container, label or the Material Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

IF CONTAMINATION OCCURS with concentrate or slurry, immediately wash skin thoroughly, flush eyes for at least 15 minutes with abundant fresh water, remove contaminated clothing.

Inhalation: Move the victim to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or Poison Control Centre immediately.

Skin contact: Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.

Ingestion: If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.

Note: Never give anything to an unconscious patient and never induce vomiting.

Antidote

There is no specific antidote available. Treat symptomatically.

5. RESISTANCE MANAGEMENT

FORTENZA DUO is a group code 28 and 4A insecticide. Any insect population may contain individuals naturally resistant to FORTENZA DUO and other group code 28 and 4A insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly and exclusively in programs. FORTENZA DUO or any other group code 28 and 4A insecticides may not control these resistant insects.

To delay insecticide resistance:

- Avoid exclusive repeated use of insecticides from the same insecticide group code. Alternate or tank mix with products from different insecticide group codes.
- Integrate other control methods (chemical, cultural, biological) into insect control programs.

As a result of its unique mode of action, FORTENZA DUO is ideally suited for applications where resistance management is important. These guidelines will maximise the effective life of the product:

1. Rotate the use of FORTENZA DUO (or any other product belonging to Group 4 or 28 insecticides) with foliar products of a different modes of action class to control the same pests in successive generations in a window approach (one window equal to one generation). Diamide (Group 28) applications should not exceed more than half of the crop period.
2. Additional information on prevention of resistance to insecticides in insects can be found on the IRAC website (www.irac-online.org) (Action Committee on Resistance to Insecticides).

Syngenta cannot accept responsibility for any losses that may result from the failure to control pests resistant to FORTENZA DUO.

For specific information on resistance management contact the registration holder of this product.

6. USE RESTRICTIONS

- In general, crop tolerance is not affected by seed treatment application of FORTENZA DUO. In case of sensitive or new varieties check crop tolerance first.
- Treat only certified seed with FORTENZA DUO.
- **FORTENZA DUO** may only be used on commercial seed. Do not use on inbred parent plants of hybrids or experimental cultivars. In the case of newly released cultivars or hybrids, use only after consultation with Syngenta or your seed supplier
- Sufficient soil moisture and mild weather conditions are important for the efficacy of **FORTENZA DUO**. Unfavourable germination conditions, such as prolonged cold spells after planting, drought, excessive moisture, or a combination thereof, can cause delayed germination
- Under conditions of high insect population pressure, damage or the destruction of seedlings may result despite seed treatment

7. DIRECTIONS FOR USE

Use only as directed.

7.1 COMPATIBILITY

- **FORTENZA DUO** is compatible with film coating polymer preparations and WS/FS formulations of other seed treatment compounds with neutral reaction.
- **FORTENZA DUO** is **not** compatible with formulations based on organic solvents.

7.2 MIXING INSTRUCTIONS

- Seed treatment should be done in a well-ventilated area.
- **FORTENZA DUO** is a flowable concentrate which must first be mixed with a small quantity of water. Mix thoroughly with the recommended amount of water before adding to the seed.
- The mixture must be used within 24 hours after preparation. Do not prepare more spray mixture than is needed for immediate application. Do not allow to stand overnight.

7.3 SEED TREATMENT

7.3.1 Calibration

- Calibrate the equipment with the final slurry

7.3.2 Preparation of slurry

- **FORTENZA DUO** is designed as a tank mix product. Dilute each product (fortenza 600 fs and Cruiser 600 fs) quantities as per rate in water or undiluted onto the seeds through suitable seed treatment equipment. It is highly recommended, however, to apply diluted, to achieve the optimum coverage. The product can be applied in combination with other seed treatment insecticides, fungicides or seed treatment nematicides.
- Total application volume should as per indicated rate. The ideal slurry volume is related to a better coverage of the application onto the seeds. Apply through suitable seed treatment equipment.
- **FORTENZA DUO** may reduce the flow of seed in the treatment plant as well as in the seed drill. Recalibrate seed drill with treated seed before use.
- When used diluted, the following procedure should be adopted for preparing the slurry:
 - Put mixing partners or water in the mix tank to give at least ½ of the final application volume.
 - Agitate the product before use.
 - Add the required quantity of **FORTENZA DUO** while stirring continuously.
 - Other compatible products may be added.
 - Maintain agitation of the slurry during the whole time of use.
 - Top up with the remaining volume of water.
 - The slurry has to be used within 24 hours after preparation. Do not allow to stand overnight.

7.3.3 Application

- A seed treatment technology/recipe should be applied which results in minimal dust formation during treatment, bagging and sowing.
- The use of deflectors with pneumatic machinery is recommended.
- Treated seed should be sown properly and completely covered by soil.

7.3.4 Cleaning

- Clean all apparatus thoroughly after treatment and application.

Directions for Use

Crop	Pests	Dosage per 100 kg of seed	Recommendations & Remarks
Corn/ Maize	<p>Cutworm (<i>Agrotis</i> spp.)</p> <p>Fall armyworm (<i>Spodoptera frugiperda</i>)</p> <p>Maize stalk borers (<i>Busseola fusca</i>, <i>Chilo partellus</i>)</p> <p>False wireworm (<i>Somaticus</i> spp. & <i>Gonocephalum</i> spp.)</p> <p>Ground weevils (<i>Prostrophus</i> spp.)</p> <p>Spotted maize beetle larvae (<i>Astylus atromaculatus</i>)</p> <p>White grubs: (<i>Diloboderus abderus</i>; <i>Phyllophaga</i> spp; <i>Cyclocephala</i> spp)</p>	<p>292 ml FORTENZA® 600 FS</p> <p style="text-align: center;">And</p> <p>292 ml CRUISER® 600 FS</p>	<p>Tank mix FORTENZA® 600 FS with CRUISER® 600 FS, water and polymer. Consult Syngenta Seedcare for the recipe.</p> <p>Treated seed must preferably be planted between 3 and 5 cm deep.</p> <p>Pest control and suppression is expected for 3 to 4 weeks after planting.</p>

User's Risk

The user bears the risk for damage resulting from factors beyond the manufacturer's control.

All recommendations for use of the product are based on the current state of the manufacturer's knowledge. Since the manufacturer cannot control the application, use, storage and transport of the product, the manufacturer cannot assume responsibility therefor.

® Registered Trademark of a Syngenta Group Company

© 2001 Syngenta Crop Protection AG.