

READ SAFETY DIRECTIONS
BEFORE OPENING OR USING

SPODOVIR® PLUS

THIS PRODUCT IS NOT REGISTERED
AND IS APPROVED FOR USE UNDER
APVMA PER91477 ONLY

ACTIVE CONSTITUENT:

5 x 10⁶ nucleocapsid bodies of *Spodoptera frugiperda* multiple nucleopolyhedrovirus isolate 19 per millilitre

GROUP 31 INSECTICIDE

For the integrated management of *Spodoptera frugiperda* (fall armyworm) in various crops as per the Directions For Use Table.

Contents: 1L



Manufactured by:
Andermatt Canada
1350 Regent St.,
Fredericton, NB, E3C 2G6,
Canada

Permit Holder:
Andermatt Group AG
Stahlermatten 6
6146 Grosseletwil
Switzerland



Distributed by:
Organic Crop Protectants
1956 Dandenong Rd
CLAYTON VIC 3168
Tel: 1800 634 204 (Free Call)
ocp.com.au

DIRECTIONS FOR USE

Crop	Pest	Rate	Critical Comments
Cereal Grains Including: Maize, Popcorn, Sorghum Oilseed Including: Linseed, Peanut, Canola, Safflower, Sunflower Pulses Including: Soybean, Mung bean Fodder and forage crops	Larvae of: <i>Spodoptera frugiperda</i> (Fall armyworm)	50 to 200 mL/ha	All crops: Thorough coverage of the crop is essential, as the active agent in Spodovir Plus must be ingested by larvae to be effective. Spodovir Plus is most effective on 1st and 2nd instar larvae, so application should be timed when most larvae are 4mm or smaller in length. Spodovir Plus should not be used to control larvae larger than 8mm (3rd instar) in length. Spodovir Plus will provide the best control when targeting 1st and 2nd instar larvae under ideal application conditions. Larvae will continue to feed for 1 to 3 days following virus infection. Larvae will take between 3 to 9 days to die, with slower control occurring with larger larvae and during cool conditions. Under high pest pressure or sub-optimal application conditions, or when immediate protection against damage is required, additional control options should be used. Sorghum: When applying Spodovir Plus during flowering, mix with the recommended rate of Helicovex if <i>Helicoverpa armigera</i> larvae are present.
Cotton		150 to 300 mL/ha	Spodovir Plus should be used in accordance with the Cotton Best Management Practices Manual.
Sweetcom, com		100 to 200 mL/ha	Application should be made at first appearance of neonate (hatching) larvae. Spodovir Plus has short residual activity and re-treatment may be required at 3-7 day intervals, depending on egg counts and crop growth rates.
Root and tuber vegetables Including: Ginger Legume vegetables Including: Green beans, Green peas		100 to 200 mL/ha	Application should be made at first appearance of neonate (hatching) larvae. Use a higher rate when flowers, fruit or economic parts of the crop are present, under high pest pressure conditions or to control larvae larger than 4mm in length. Use lower rates only during vegetative stages of crop production. Spodovir Plus has a short residual activity and re-treatment may be required at 3-day intervals depending on egg counts and crop growth rates.
Ornamental flowers & plants			

NOT TO BE USED FOR ANY OTHER PURPOSE OR IN ANY MANNER CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.
WITHHOLDING PERIOD: NOT REQUIRED WHEN USED AS DIRECTED

GENERAL INSTRUCTIONS: Spodovir Plus is a highly specific naturally occurring pathogen of *Spodoptera frugiperda* (fall armyworm) and will have no impact on other pest and beneficial species present in the crop. The effectiveness of Spodovir Plus is dependent on several important factors: environmental conditions, application and the feeding behaviour of the pest. It is because of the requirement for near perfect conditions that the performance of Spodovir Plus is variable and at times, the level of control may be below expectations. The speed of activity of Spodovir Plus is also dependent on climatic conditions. Larvae can take up to 9 days to die from initial infection. A temperature range of 25°C to 35°C is ideal for the activity of Spodovir Plus. Temperatures below 18°C will slow down the development of Spodovir Plus infection and cause delayed or reduced control.
Good coverage of the feeding sites of the larvae is essential, as the product needs to be ingested to be effective. Spodovir Plus will not control larvae that do not feed on treated areas, such as when larvae are feeding in protected feeding sites such as inside whorls, corn cobs and cotton flowers and bolls.
Good coverage plus actively feeding larvae are the key factors in ensuring maximum performance of Spodovir Plus. For this reason, apply Spodovir Plus to coincide with optimum environmental conditions for application and larval activity, such as periods of high humidity and warm (>18°C) conditions. Under sub-optimal conditions where application cannot be delayed, increasing application of volume and droplet size should be considered.

Spodoptera growth stage identification
Showing the actual size of *S. frugiperda* larvae at a given age (days since egg hatch) when reared at 25°C

Instar	Age (Days)	Size Category	Length	Spodovir Plus Timing
1st	0-1	Very Small	1-2 mm	✓✓
2nd	2-3	Small	3-4 mm	✓✓
3rd	4-5	Medium (small)	5-8 mm	✓
4th	6-7	Medium (large)	9-14 mm	X
5th	8-9	Large	15-20 mm	X
6th	10-14	Very Large	21-30+ mm	X

MIXING: Shake the container well before use. Spray water pH should be between 5 to 8.5 - spray water pH above 9 will damage the virus and performance will be reduced. If needed, use a suitable buffer or acidifier.

If mixing with other pesticides or foliar fertilisers in water, add Spodovir Plus to the spray tank after the other products are thoroughly diluted. Spodovir Plus should be applied as soon after mixing as possible.

APPLICATION (ALL CROPS): It is critical to use the application parameters (nozzles, swath width, pressure, boom height, speed, etc.) to ensure thorough coverage of the target area.
Horticultural crops: Apply by ground rig or hand-held equipment in a minimum of 200-1600 L/ha depending local standard practice.

Broadacre crops:
Ground Rig: Apply in a minimum of 200-1600 L/ha depending local standard practice.

Aerial - High Volume: Apply in a minimum of 30 litres of water per hectare. This application method is particularly susceptible to droplet evaporation, especially during hot and dry conditions (temperature greater than 30°C and humidity less than 40%). Droplet evaporation will reduce coverage, which can have a detrimental impact on performance. During hot and dry conditions avoid using this application method - wait until conditions favour good coverage or apply ULV (see below). Alternatively, if application in water by air during hot and dry conditions cannot be avoided, increase application volume and/or use an anti-evaporation additive to improve coverage.

Aerial - Low Volume (Flowering Sorghum Only): Apply in a minimum of 10 litres of water per hectare.

Aerial - Ultra-Low Volume (ULV): Use an approved carrier oil such as D-C-Tron, Cottoil, Canopy or Biopest Oil and apply in a minimum volume of 3 litres per hectare using micronair nozzles. The two-component mix of Spodovir Plus and carrier oil is suitable for ULV application (e.g., Spodovir Plus + 2 L carrier oil per hectare). When applying Spodovir Plus in ULV, DO NOT tank mix with other pesticides or fertilisers (refer to Compatibility).

Via Overhead Irrigation: Spodovir Plus can effectively apply to crops in overhead irrigation water. The product should be introduced to the irrigation water at the appropriate rate using fertigation/chemigation equipment. If the product is diluted in water prior to injection into the irrigation water, ensure that the dilution water is clean and not silty with pH of 7 or less and ensure there is constant agitation. Preferably, rainwater should be used for dilution. Ensure any diluted Spodovir Plus is used within 10 hours of mixing. For one-pass mobile irrigators such as centre pivots and laterals, continuously introduce the required quantity of Spodovir Plus into the irrigation water over the course of irrigation. Apply Spodovir Plus in no more than 10 mm of irrigation water. For static irrigators, introduce the required amount of Spodovir Plus into the irrigation water just prior

to completion of the irrigation period, to maximise the concentration of Spodovir Plus applied and the amount that remains on the crop.

COMPATIBILITY: In water, Spodovir Plus is highly compatible with most herbicides, insecticides, fungicides and fertilisers when mixed in water. Ensure that the mixture has a pH between 5 and 8.5 before adding Spodovir Plus as alkaline pH (greater than 9) will damage the virus. In ULV: For ULV application in oil, Spodovir Plus is not compatible with other pesticides since the undiluted solvents in these products can damage the virus.

RAIN FASTNESS: The majority of virus uptake by larvae occurs within one-hour post-application. For this reason, it is best to avoid applying Spodovir Plus if heavy rain is expected within one hour following application. However, do not delay application if only moderate rain is expected, or heavy rain is not imminent.

INSECTICIDE RESISTANCE WARNING:

GROUP 31 INSECTICIDE

For insecticide resistance management Spodovir Plus is a Group 31 insecticide. Some naturally occurring insect biotypes resistant to Spodovir Plus and other Group 31 insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Spodovir Plus or other Group 31 insecticides are used repeatedly. The effectiveness of Spodovir Plus on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Organic Crop Protectants, Andermatt Group AG and Andermatt Canada accepts no responsibility for any losses that may result from the failure of Spodovir Plus to control resistant insects. Spodovir Plus may be subject to specific resistance management strategies. For further information contact your local supplier, Organic Crop Protectants representative or local agricultural department agronomist.

To help prevent the development of resistance to Spodovir Plus, observe the following instructions:

- Use Spodovir Plus in accordance with the current Insecticides Resistance Manual (IRM) strategy for your crop or region
- Use IPM tactics to manage *Spodoptera frugiperda* (fall armyworm)
- Monitor *Spodoptera frugiperda* populations for loss of field efficacy. For further information contact your farm chemical supplier, consultant, local Department of Agriculture or Primary Industries, or Organic Crop Protectants. For additional information on insect resistance, modes of action and monitoring visit the Insecticide Resistance Action Committee (IRAC) website.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT: Do not contaminate streams, rivers or waterways with the product, including via run-off, spray drift or disposal of used containers.

STORAGE AND DISPOSAL

Storage: Keep out of reach of children. Store in the closed, original container out of direct sunlight at or below 4°C. Storage in a domestic freezer is suitable (-18°C). The product can be stored and transported between 4°C and 25°C for up to 3 months. Expiry date is 2 years from DOM when stored at 4°C.

Disposal: Triple rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted product on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

Refillable Containers: Empty contents fully into application equipment. Close all valves and return to the point of supply for refill or storage.

PRECAUTIONS

Re-entry: Do not allow entry into treated areas until spray has dried. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

Flaggers: Do not use human flaggers/markers unless they are protected by engineering controls such as enclosed cabs.

SAFETY DIRECTIONS: May irritate the eyes and skin. Avoid contact with eyes and skin and open wounds. Repeated exposure may cause allergic disorders. Sensitive workers should use protective clothing. When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow length PVC gloves and a face shield or goggles. Wash hands after use. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

FIRST AID: If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26 OR EMERGENCIES ONLY, CALL AUSTRALIA 1800 220 770 (ALL HOURS).

SAFETY DATA SHEET: Additional information is listed in the Safety Data Sheet available from the supplier and ocp.com.au.

Date of Manufacture: _____

Batch Number: _____

Spodovir is a registered trade mark of Andermatt Group AG.
The OCP Drop Device is a registered trade mark of Organic Crop Protectants.

