

2018-0099

2018-02-16

KUDOS® 27.5 WDG

Water Dispersible Granules

Commercial

Plant growth regulator for use on apples, and sweet and tart cherries, and strawberries

Active Ingredient: Prohexadione calcium.....27.5%

WARNING, contains the allergen milk

Registration No.: 33010 Pest Control Products Act

CAUTION – EYE AND SKIN IRRITANT

READ THE LABEL BEFORE USING
KEEP OUT OF REACH OF CHILDREN

Fine Agrochemicals Limited
Hill End House
Whittington, Worcester
UK WR5 2RQ

Tel : 011 44 1905 361800

Distributed by:
N.M. Bartlett Inc.
4509 Bartlett Rd.
Beamsville, Ontario
L0R 1B1
905-563-8261

Net Contents: 110 g - 100 kg

Kudos is a registered trademark of Fine Agrochemicals, Ltd.

PRECAUTIONS

- KEEP OUT OF REACH OF CHILDREN
- May irritate eyes and the skin
- Avoid contact with eyes, skin and clothing
- Wash thoroughly after handling and before eating, drinking or smoking
- Wear long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up, and repair. Goggles are required during airblast application.
- If clothing becomes contaminated, remove and wash separately from household laundry before reuse.
- Clean spray equipment thoroughly after use. Clean spray equipment thoroughly using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions before and after applying this product.
- Apply only when the potential for drift to areas of human habitation or areas of human activity (houses, cottages, schools and recreational areas) is minimal. Take into consideration wind speed, wind direction, temperature inversion, application equipment and sprayer settings.
- DO NOT enter or allow entry into treated areas during the restricted entry interval (REI) of 12 hours.
- If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's website www.croplife.ca.

FIRST AID

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION

Treat symptomatically.

ENVIRONMENTAL HAZARDS

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

STORAGE

DO NOT contaminate water, food, or feed by storage or disposal. Store in original container only. After partial use, close the container tightly. Store in a secure place that is cool and dry. Use spray and stock solutions within 24 hours. Immediate use is required if another component is added to the spray solution.

DISPOSAL

CONTAINER HANDLING: Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

NOTICE TO USER

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

DIRECTIONS FOR USE

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirement specific to your region, consult the provincial agency responsible for pesticide regulation.

Kudos[®] 27.5 WDG is a plant growth regulator which inhibits the biosynthesis of gibberellins. Inhibition of gibberellin reduces vegetative growth.

- Thorough spray coverage of plant foliage is necessary for good uptake.
- The performance of Kudos[®] 27.5 WDG can be affected by many factors including: crop growth stage, environmental conditions and crop vigour due to moisture availability, fertility level, etc.
 - Correct timing of application is critical. Apply Kudos[®] 27.5 WDG to actively growing trees at rates and stages of growth listed in this label.
 - Apply Kudos[®] 27.5 WDG using calibrated ground equipment. Kudos[®] 27.5 WDG may be applied using either dilute or concentrate spray equipment as long as sufficient spray coverage is achieved. To achieve good coverage, apply Kudos[®] 27.5 WDG in a sufficient spray volume per hectare utilizing proper spray pressure, nozzles, nozzle spacing and tractor speed.
 - Growth suppression with Kudos[®] 27.5 WDG generally lasts for 2-5 weeks per application. Kudos[®] 27.5 WDG does not affect vegetative growth the season following application.
 - Add 1 kilogram of a spray grade ammonium sulfate (AMS) for every 1 kilogram of Kudos[®] 27.5 WDG (See Additives Section).
 - Use a standard spray adjuvant, preferably a non-ionic surfactant, to improve leaf coverage and performance consistency (See Additives Section).
 - DO NOT tank mix Kudos[®] 27.5 WDG with calcium (including gypsum) or boron sprays, as a reduction in growth control may result.
 - Rainfall within 8 hours for apples, cherries, and strawberries may reduce the efficacy of Kudos[®] 27.5 WDG.
 - DO NOT apply to crops under stress due to lack of moisture, hail damage, flooding, mechanical injury, or injury caused by other prior products, i.e., phytotoxicity.
 - Clean spray equipment thoroughly using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions before and after applying Kudos[®] 27.5 WDG.
 - DO NOT apply this product through any type of irrigation system.
 - During seasons when both Kudos[®] 27.5 WDG and products containing gibberellins, e.g., Novagib[®] 10L are used, reductions in efficacy may occur in the Kudos[®] 27.5 WDG and/or gibberellins treatments.

ADDITIVES

Adjuvant

Kudos® 27.5 WDG can be applied with Agral® 90 at a rate of 0.5 mL/L or 0.05% v/v in conditions where uptake of prohexadione-calcium would be reduced such as drought conditions, low humidity, hot temperatures or if particularly lush growth is present (lots of foliage).

Ammonium Sulphate

Kudos® 27.5 WDG must be applied with ammonium sulphate (AMS) at a ratio of 1:1 to Kudos® 27.5 WDG if the water source used for spray applications contains high levels of calcium (hard water). Use high-quality, spray grade AMS to avoid plugging nozzles.

MIXING ORDER:

1. Fill spray tank half full with clean water and begin agitation.
2. Add Kudos® 27.5 WDG.
3. Add adjuvants.
4. Add Ammonium Sulfate (AMS).
5. Add remaining quantity of water and continue agitation through application.

Maintain constant agitation during application.

APPLICATION INSTRUCTIONS

Apples:

Kudos® 27.5 WDG can be used as a production management tool on apples to suppress vegetative growth, i.e., shoot growth reduction, resulting in a balance between canopy development and fruit production.

Benefits resulting from the use of Kudos® 27.5 WDG include:

- Reduction in vegetative shoot growth
- Lessens the need or frequency for summer and/or dormant pruning
- Improved fruit color in red or bi-color apple varieties due to better light penetration into the tree canopy
- Reduced incidence and severity of fire blight of shoots

The use of Kudos® 27.5 WDG may result in an increase in fruit retention. Therefore, thinning programs may need to be adjusted when using Kudos® 27.5 WDG.

When used as recommended, Kudos® 27.5 WDG will reduce the incidence and severity of fire blight infection of shoots and leaves, i.e., shoot blight, by reducing vegetative growth, thus decreasing host susceptibility. This decrease in susceptibility will not become effective until approximately 10 days after application. Kudos® 27.5 WDG does not have direct antibiotic

activity against the fire blight bacteria (*Erwinia amylovora*) and is not effective for the suppression of blossom blight. For maximum reduction in fire blight susceptibility, apply Kudos™ 27.5 WDG at least 10 days before the occurrence of weather conditions favorable for shoot and leaf infections, and used as one component of a comprehensive control strategy against fire blight.

Application Timings: For vegetative growth control, make the first application of Kudos™ 27.5 WDG when shoots have 2.5-7.5 cm of new growth. For best results, make subsequent applications at 14-21 day intervals, before or immediately following signs of shoot regrowth.

Number of Applications: The number of applications will vary depending on the timing of the first application, tree vigour, fruit load, pruning, variety, rootstock, and/or the management history of the orchard. For most apple orchards, two applications 14 to 21 days apart beginning at 2.5 to 7.5 cm of new shoot growth will provide good growth control. For apple orchards in locations with a long growing season or on high vigour trees and/or trees with light fruit load, 3-4 applications per season may be required. Consult with a local agronomist for your specific area.

Tree Vigour: Adjust the Kudos™ 27.5 WDG rate according to the vegetative vigor of the trees (see Table 1). Vegetative vigour can be influenced by many factors, including variety, rootstock, fruit load, cultural management and location.

Tree Size: Calculate the rate per hectare of Kudos™ 27.5 WDG based on tree size. The application rate should be based on the volume of water needed to spray the trees to drip i.e. dilute spray or Tree Row Volume (TRV). Consult your local extension agent or consultant for a recommendation on spray volume.

Application Rates: Recommended rates will be based on desired treatment effect, i.e., vegetative growth control, shoot blight suppression, etc. For vegetative growth control, Kudos™ 27.5 WDG rates should be based on level of tree vigour and/or length of growing season. Refer to Table 1 for recommended rates per application.

For consistent performance on apples, add one kilogram of a spray grade ammonium sulfate (AMS) for every kilogram of Kudos™ 27.5 WDG. Use a standard spray adjuvant, preferably a non-ionic surfactant, to improve leaf coverage and performance consistency (See Additives Section).

The Kudos™ 27.5 WDG application rate will be based on the vegetative vigour and the size of the tree.

1. Assess if trees have low, medium, or high vigour to determine the rate of Kudos™ 27.5 WDG (see section Crop-Specific Information).
2. Determine the size of the tree in terms of the amount of water needed for a dilute spray (spray to drip or according to Tree Row Volume).
3. Multiply the Kudos™ 27.5 WDG rate per 100 L of dilute spray by the size of the tree in litres per hectare. The result is the number of grams needed per hectare for those trees. Once this application rate is determined in grams per hectare, it can be converted into the actual spray volume.

Example Calculation: For a block of apple trees that typically produces 50-100 cm of shoot growth per year (vigorous growth), the suitable rate would be 2 applications of 45 g/100 litres according to the crop specific rate table (Table 1). The trees are large and require 3,000 litres per ha to spray dilute (i.e., to drip).

$$\frac{45 \text{ grams of Kudos}^{\text{®}} 27.5 \text{ WDG}}{100 \text{ litres of water}} \times \frac{3,000 \text{ litres}}{\text{ha}} = 1,350 \text{ g/ha}$$

The rate of Kudos[®] 27.5 WDG may be applied in dilute or concentrated sprays as long as good spray coverage is achieved.

Crop-Specific Information: Make the first application of Kudos[®] 27.5 WDG when shoots have 2.5–7.5 cm of new shoot growth. Repeat applications as needed (up to a maximum of 4 applications per season) for control of vegetative growth and suppression of fire blight. Refer to Tables 1 and 2 for application rates and timings. Dilute spray volumes are based on the amount of solution required to thoroughly wet the foliage to the point of runoff. Consult your local extension agent or consultant for a recommendation to calculate the dilute coverage based on the tree row volume. Applying Kudos[®] 27.5 WDG can increase fruit set by reducing June drop. Therefore, thinning programs may need to be more aggressive when using Kudos[®] 27.5 WDG.

On apple varieties known to be prone to cracking, such as Empire and Stayman, Kudos[®] 27.5 WDG has been associated with an increase in fruit cracking. The use of Kudos[®] 27.5 WDG on Cortland variety may result in a decrease in yield and marketable yield.

Table 1: Recommended Application Rates for Vegetative Growth Control in Apples		
Application Timing	Kudos® 27.5 WDG rate¹ per 100 L of dilute spray	Kudos® 27.5 WDG rate² per hectare
Medium to High Vigour Trees (split applications) Apply at 2.5 – 7.5 cm of new shoot growth. Make subsequent applications at 14 – 21 day intervals, up to a maximum of 4 applications per season if required.	45 grams	1,350 grams
Low to Medium Vigour Trees (split applications) Apply at 2.5 – 7.5 cm of new shoot growth. Make subsequent applications at 14 – 21 day intervals, up to a maximum of 4 applications per season if required.	27 grams	810 grams
Low Vigour Trees (single application) Apply at 2.5 – 7.5 cm of new shoot growth.	27 to 45 grams	810 to 1,350 grams

¹ All rates in this table represent formulated product amounts.

² Rate based on dilute water volume of 3,000 L/ha (to runoff).

Table 2: Recommended Application Rates for Suppression of Fire Blight in Apples		
Application Timing	Kudos® 27.5 WDG rate¹ per 100 L of dilute spray	Kudos® 27.5 WDG rate² per hectare
To reduce fire blight infections of shoot by decreasing vegetative growth Apply at 2.5 – 7.5 cm of new shoot growth. Make subsequent applications at 14 – 21 day intervals, up to a maximum of 4 applications per season if required.	45 grams	1,350 grams

¹ All rates in this table represent formulated product amounts.

² Rate based on dilute water volume of 3,000 L/ha (to runoff).

General Restrictions and Limitations on Apples:

- **DO NOT** apply more than a total of 5.4 kg of Kudos® 27.5 WDG per hectare, per season.
- **DO NOT** apply more than a total of 2.7 kg of Kudos 27.5 WDG per hectare within any 21-day interval.
- **DO NOT** apply within 45 days before harvest.
- **DO NOT** apply to crops that show injury (leaf phytotoxicity) produced by any other prior pesticide applications because this injury can be enhanced or prolonged.
- The active ingredient in Kudos® 27.5 WDG has been shown to increase fruit cracking on apple varieties such as Empire and Stayman, which are known to be prone to cracking.

Cherries (sweet and tart):

Kudos® 27.5 WDG can be used as a production management tool on cherries to suppress vegetative growth i.e. shoot growth reduction, which can reduce or delay the need for pruning. Kudos® 27.5 WDG does not affect vegetative growth the season following application.

For consistent performance on cherries, add one kilogram of a spray grade ammonium sulfate (AMS) for every kilogram of Kudos® 27.5 WDG. Use a standard spray adjuvant, preferably a non-ionic surfactant, to improve leaf coverage and performance consistency (See Additives Section).

Apply Kudos® 27.5 WDG to cherries according to the rates recommended in Table 3. Make the first application of Kudos® 27.5 WDG in the spring when shoots have 5-20 cm of new growth. If additional vegetative growth control is needed, make subsequent applications at 14-21 day intervals, before or immediately following signs of shoot regrowth. DO NOT apply Kudos® 27.5 WDG on low vigour trees.

Number of Applications: The number of applications will vary depending on the timing of the first application, tree vigour, fruit load, pruning, variety, rootstock, and/or the management history of the orchard. For cherry orchards in locations with a long growing season or on high vigour trees and/or trees with light fruit load, 2 applications per season may be required.

Application Timing	Kudos® 27.5 WDG rate^{2,3} per 100 L of dilute spray	Kudos® 27.5 WDG rate³ per hectare
Apply at 5 – 20 cm of new shoot growth. If required, make a second application 14 – 21 days after the initial application (a maximum of 2 applications per season are permitted).	45 grams	1,350 grams

¹ Cherry cultivars may vary in their responsiveness to Kudos® 27.5 WDG. Consult your local extension specialist for information on the responsiveness of specific cherry cultivars to Kudos® 27.5 WDG.

² All rates in this table represent formulated product amounts.

³ Rate based on dilute water volume of 3,000 L/ha (to runoff).

Airblast Application: DO NOT direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

DO NOT apply by air.

General Restrictions and Limitations:

- DO NOT apply more than a total of 2.7 kg of Kudos® 27.5 WDG per hectare per season..
- DO NOT apply within 20 days before harvest.
- Kudos® 27.5 WDG is rainfast 8 hours after application.
- DO NOT apply to crops that show injury (leaf phytotoxicity) produced by any other prior pesticide applications because this injury can be enhanced or prolonged.
- Refer to General Tank Mixing Information for additional tank mixing instructions and precautions.

Strawberries

Apply Kudos® 27.5 WDG at 135 g/ha prior to the beginning of runner initiation for June-bearing and Day-neutral strawberries. The use of a non-ionic surfactant and ammonium sulphate conditioner is recommended (See Additives Section).

Table 4: Recommended Application Rates for Strawberries		
Application Timing	Kudos® 27.5 WDG rate¹ per 100 L of dilute spray	Kudos® 27.5 WDG rate² per hectare
Apply prior to the beginning of runner initiation. Make subsequent applications at 14-21 day intervals, up to a maximum of 3 applications per season, if required. Do not apply later than 21 days prior to harvest.	45 grams	135 grams

¹ All rates in this table represent formulated product amounts.

² Rate based on dilute water volume of 300 L/ha (to runoff).

Kudos® 27.5 WDG has been evaluated for phytotoxicity on a wide range of conditions; however, it has not been possible to evaluate all commercially important varieties under every possible condition. Apply Kudos® 27.5 WDG to a small area and evaluate crop safety for 3–5 days before attempting a large-scale spray to make certain that no phytotoxicity occurs.

General Restrictions and Limitations:

- DO NOT apply more than a total of 0.405 kg of Kudos® 27.5 WDG per hectare per season.
- DO NOT apply within 21 days before harvest.
- Kudos® 27.5 WDG is rainfast 8 hours after application.
- DO NOT apply to crops that show injury (leaf phytotoxicity) produced by any other prior pesticide applications because this injury can be enhanced or prolonged.

Field sprayer application

DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium classification. Boom height must be 60 cm or less above the crop or ground. **DO NOT** apply by air.