

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

SPOTLIGHT PLUS[®]

HERBICIDE

ACTIVE CONSTITUENT: 60 g/L CARFENTRAZONE-ETHYL

GROUP G HERBICIDE

For use as a standalone treatment for desuckering of grapevines, olives, prunes and general sucker control in other tree fruits, tree nuts and assorted tropical and sub tropical fruit; for haulm desiccation in potatoes and in tank mixtures with knockdown herbicides for the improvement in the control of marshmallow and certain other broadleaf weeds prior to establishment of horticultural or row crops, forest plantations, in commercial, industrial and public service areas, around buildings and yards, in hops, treefruits, nuts, and grapevines, as specified in the DIRECTIONS FOR USE table.

IMPORTANT: READ THIS LEAFLET BEFORE USE

FMC

FMC Crop Protection Pty Ltd
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DIRECTIONS FOR USE

Restraints

DO NOT apply by aerial application.

FOR POTATOES ONLY:

Spray Drift Restraints:

DO NOT apply with spray droplets smaller than a MEDIUM spray droplet size category according to nozzle manufacturers specifications that refer to the ASAE S572 Standard or the BCPC Guideline.

DO NOT apply when wind speed is less than 3 or more than 20 kilometres per hour as measured at the application site.

DO NOT apply during surface temperature inversion conditions at the application site.

Users of this product **MUST make an accurate written record** of the details of each spray application within 24 hours following application and **KEEP** this record for a minimum of 2 years. The spray application details that must be recorded are: **1)** date with start and finish times of application; **2)** location address and paddock/s sprayed; **3)** full name of this product; **4)** amount of product used per hectare and number of hectares applied to; **5)** crop/situation and weed/pest; **6)** wind speed and direction during application; **7)** air temperature and relative humidity during application; **8)** nozzle brand, type, spray angle nozzle capacity and spray system pressure measured during application; **9)** name and address of person applying this product. (Additional record details may be required by the state or territory by the state or territory where this product is used.)

Mandatory No-Spray Zones for protection of the aquatic environment and non-target vegetation or animal habitat:

DO NOT apply if there are aquatic or wetland areas including aquacultural ponds within 30 metres downwind from the application area.

DO NOT apply if there are non-target vegetation or animal habitat with 70 metres downwind from the application area.

Situation	Weeds Controlled	Time of Application	Rate	Critical Comments
Grapevines	Control of unwanted suckers (water shoots) arising from the main stem or trunk	Apply to suckers less than 300 mm long, before any lignification (brown bark) is present	300 mL/100 L sprayed to point of run-off.	Application of Spotlight Plus to suckers (water shoots) arising from the main stem will result in rapid burn down and extended control of regrowth. Any regrowth may be less vigorous but may need a repeat application for season long control. Suckers arising from pruned stubs or roots may be less well controlled. More vigorous varieties and grafted vines on vigorous rootstocks may need several applications depending on the growth conditions.
Olives		Apply to suckers less than 70 mm long, before any lignification (brown bark) is present		Several applications may be needed throughout the season depending on the growth conditions. Repeat applications must be made before new suckers reach 70 mm in length.
Prunes (plums)		Apply to suckers before any lignification (brown bark) is present		Several applications may be needed throughout the season depending on the growth conditions. Extreme caution must be used during applications when desirable fruit and/or foliage are present in order to avoid fruit spotting and/or leaf necrosis. Do not allow spray mist of Spotlight Plus to come into contact with green stem tissue, foliage, blooms or desirable fruit.
Other Treefruits (including Pome fruit, Stone fruit and Citrus fruit), Tree Nuts and Assorted Tropical and Sub tropical fruits	Control of unwanted suckers (water shoots) arising from the main stem or trunk	Apply to suckers before any lignification (brown bark) is present	300 mL/100 L sprayed to point of run-off.	Several applications may be needed throughout the season depending on the growth conditions.

Situation	Weeds Controlled	Time of Application		Rate	Critical Comments
<p>To assist in weed control in young or established Hops, Grapevines, Treefruits (including Pome fruit, Stone fruit and Citrus fruit), Tree Nuts and Assorted Tropical and Sub tropical fruits (includes treeline and vinline spraying)</p> <p>Prior to sowing horticultural crops, and prior to establishment of forestry plantations.</p> <p>To assist in weed control in Commercial, Industrial, Plantation forestry, Firebreaks, and Public Service areas, (such as Right-of-Ways, Rail track and yards, Roadsides)</p>	<p>Australian Crassula/Stoncrop <i>Crassula spp</i> Capeweed <i>Arctotheca calendula</i> Chickweed <i>Stellaria media</i> Common storksbill (max. 4 leaves) <i>Erodium cicutarium</i> Doublegee / Spiny emex / Three cornered jack <i>Emex australis</i> Marshmallow <i>Malva parviflora</i> Paterson's curse <i>Echium plantagineum</i> Sub. clover <i>Trifolium subterraneum</i> Wild radish <i>Raphanus raphanistrum</i></p> <p>Refer also to the product label for the knockdown herbicide used.</p> <p>If one of the above weeds is the dominant weed, and there is no specific rate for it in the knockdown herbicide's label, consult the label's generic annual-weed rate-range. Select from within this range to suit the weed-stage, weed-density, conditions (etc) of your situation.</p>	<p>Apply as a tank mix with Gladiator, Roundup PowerMAX or other glyphosate products; Spray. Seed, Shirquat, Nuquat or other paraquat products.</p>		<p>100 - 300 mL/ha plus recommended label rates of knockdown herbicides</p> <p>Spot spray 40mL/100 L plus recommended label spot spray rates of knockdown herbicides</p>	<p>Addition of Spotlight Plus to knockdown herbicides will increase the speed at which treated broadleaved weeds in general develop visible symptoms (compared to results achieved with knockdown herbicides applied alone) and may improve final control of broadleaved weeds including certain hard-to-kill weeds, marshmallow in particular. The use of higher rates and full soil disturbance may improve control of marshmallow in particular.</p> <p>Use the lower rates on younger plants or plants growing under good conditions and the higher rates on older plants or plants growing under less optimum conditions.</p> <p>The lower rate may only provide suppression of capeweed, wild radish, common storksbill and doublegee under poor growing conditions. Common storksbill should be no larger than 4 leaf at spraying, recently germinated and not under stress – older or stressed plants may not be adequately controlled.</p> <p>Application to hardened weeds or drought stressed weeds especially under summer conditions may cause only localised injury to weed foliage which may not enhance final weed control. Mallow growing and sprayed in the summer is especially prone to drought stress and may either not show symptoms typical of Spotlight Plus or may regrow following treatment although plants did not appear very stressed at application.</p> <p>Apply only as a tank mix with recommended rates of knockdown herbicides. Refer to the appropriate label for weed sizes and follow all label directions.</p> <p>To ensure uptake of Spotlight Plus DO NOT sow crops for at least 1 hour after application. Always refer to the appropriate companion product label in case a longer re-crop sowing period is required.</p> <p>When using Spotlight Plus as a spot spray, apply in sufficient water (minimum 500 L/ha) to thoroughly wet all weed foliage to the point of run-off.</p>

Situation	Weeds Controlled	Time of Application	Rate	Critical Comments
Potato	Haulm desiccation (Burn down of potato leaves and stems as an aid to harvest)	When potato tubers are at the desired size.	-	<p>Potato tubers should be fully developed and at the required size for harvest. Some senescence of the tops may be evident. Crops showing some natural senescence may desiccate quicker than crops still actively growing. Haulm kill may be slower than that from Reglone.</p> <p>Spotlight Plus is suitable for use on all varieties of potatoes for seed and fresh use. Delay digging for 2 to 3 weeks after the final application to ensure skin on the tuber is hardened sufficiently to minimise damage from the digging operation. Apply Spotlight Plus in a sufficiently high water volume (300 – 600 L/ha) to ensure good coverage of haulms. Use of the highest spray pressure through low drift air induction nozzles may assist in depositing spray onto the stem.</p> <p>Spotlight Plus does not translocate to the tuber but avoid spraying if the tops are wilting due to dry stress as the final level of desiccation may be reduced. Spotlight Plus is not known to cause stem end browning or other physiological problems in stored tubers.</p>
			1.0 to 1.5 L/ha	<p><u>Single application of Spotlight Plus:</u> in light to medium density crops which have started to senesce, a single application of Spotlight Plus may be sufficient to allow harvesting to occur.</p>
			0.75 to 1 L/ha	<p><u>Split application of Spotlight Plus.</u> In dense and still actively growing crops where no natural senescence is evident a split application at least 7 days apart may be required for satisfactory haulm control. The first application (0.75 to 1.0 L/ha) allows burn down of most of the tops and the follow up application (0.75 to 1.0 L/ha) will help complete desiccation of the leaves and provide better burn down of the stems.</p>
			0.75 to 1 L/ha	<p><u>Flailing:</u> Spotlight Plus applied after flailing can improve burn down of stems and prevent regrowth. Flailed top growth must be clear of the remaining stems before Spotlight Plus is applied otherwise reduced control may result.</p>

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

WITHHOLDING PERIOD:

HARVEST: NOT REQUIRED FOR SPOTLIGHT PLUS HERBICIDE WHEN USED AS DIRECTED HOWEVER, REFER ALSO TO THE WITHHOLDING PERIOD OF PRODUCT/S MIXED WITH SPOTLIGHT PLUS HERBICIDE.

GRAZING: DO NOT GRAZE TREATED AREAS OR CUT FOR STOCKFOOD FOR 14 DAYS AFTER APPLICATION.

GENERAL INSTRUCTIONS

Spotlight Plus Herbicide is a post-emergence herbicide to be used for desiccation of suckers (de-suckering) of grapevines, olives, prunes and other tree fruits, tree nuts and tropical and sub tropical fruits, for desiccation of potato haulms, or to be added to knockdown herbicides to improve the control of certain broadleaf weeds prior to the establishment of horticultural crops, as a directed spray in treefruits, nuts and grapevines, and in commercial, industrial and public service areas (such as rail track and yards and roadsides).

Spotlight Plus is a fast acting contact herbicide desiccating and aiding in control of weeds through a process of membrane disruption. The foliar uptake of Spotlight Plus is rapid and plant desiccation can occur within 3 days of application.

Application of Spotlight Plus for broadleaf weed control should target small actively growing weeds. Subsequent germinations will not be controlled.

SYMPTOMS

Spotlight Plus is rapidly absorbed through the foliage of plants. Within a few hours following application, the foliage of susceptible weeds show signs of desiccation, and in subsequent days necrosis and death of the plant.

Extremes in environmental conditions eg. temperature and moisture, soil conditions and cultural practices may affect the activity of Spotlight Plus. Under warm moist conditions, herbicide symptoms may be accelerated. While under very dry conditions, the expression of herbicidal symptoms is delayed, and weeds hardened off by drought are less susceptible to Spotlight Plus.

COMPATIBILITY

For control of suckers in grapevines, olives, plums and other tree fruits, tree nuts and assorted tropical and sub tropical fruit Spotlight Plus does not require tank mixing with any herbicide or adjuvant partners. If required it may be tank mixed with a non systemic, contact herbicide for combined sucker and weed control.

For most weed control uses as per the Directions for Use, Spotlight Plus should always be tank mixed with formulations of knockdown herbicides including FMC Glyder 450, FMC Glyder Offense 540, Glyder Dry 700 or other products based on glyphosate, FMC Paraquat 250, FMC Paraquat + Diquat or other knockdown herbicides based on paraquat and FMC Glufosinate 200. Spotlight Plus is also compatible with partner herbicides commonly used with knockdown herbicides including FMC Atrazine 900 WG, FMC 2,4-D Amine, FMC 2,4-D ester, FMC Pendimethalin, FMC Simazine 900, simazine SC and FMC Trifluralin. This compatibility claim is restricted to a three-way mix of Spotlight Plus with any one of the above partner herbicides plus a knockdown herbicide (provided the knockdown herbicide label includes a claim of compatibility with that partner herbicide).

RESISTANT WEEDS WARNING

GROUP G HERBICIDE

Spotlight Plus Herbicide is a member of the Aryl triazoline group of herbicides. Its mode of action is through a process of membrane disruption, which is initiated by the inhibition of the enzyme protoporphyrinogen oxidase. This inhibition interferes with the chlorophyll biosynthetic pathway. For weed resistance management Spotlight Plus is a Group G herbicide.

Some naturally occurring weed biotypes resistant to Spotlight Plus and other Group G herbicides may exist through normal genetic variability in any weed population and increase if these herbicides are used repeatedly. These resistant weeds will not be controlled by Spotlight Plus or other Group G herbicides.

Since the occurrence of resistant weeds is difficult to detect prior to use, FMC Crop Protection Pty Ltd accepts no liability for any losses that may result from the failure of Spotlight Plus or other Group G herbicides.

TIMING

Desuckering

Grapevines

Application should be made early in the growing season when shoots are up to 300 mm long and before they have lignified.

Olives

The first application should be made early in the growing season when shoots are up to 70 mm long and before they have started to lignify (sign of brown bark). Repeat applications must be made when new shoots are up to 70 mm long and before they have started to lignify.

Prunes (Plums)

The first application should be made to suckers before any lignification (brown bark) is present. Repeat applications should be made before fresh suckers have started to lignify.

Pre-planting, Tree-line, Vine-line and Forestry weed control

Application should be made to small, actively growing weeds less than 6 to 8 leaf in stage. As Spotlight Plus is a contact herbicide, best control is achieved when weeds are exposed and are not shielded by other weeds and or stubble.

MIXING

Add half the required volume of water to spray tank and start agitation. Add any partner SC or WG herbicide next if it should be added before an EC or knockdown herbicide. Add the measured amount of Spotlight Plus next, followed by the knockdown herbicide (if required). Add balance of water to tank and add any adjuvant or additive if recommended for use with the knockdown herbicide. Maintain good agitation at all times until spraying is completed.

APPLICATION

DO NOT apply by aerial application.

The best application conditions are when soil is moist, weather fine and rain unlikely within one hour or as specified for the knockdown herbicide.

Extremes in environmental conditions eg. temperature and moisture, soil conditions and/or cultural practices may affect the activity of Spotlight Plus. Under warm moist conditions, herbicide symptoms may be accelerated. While under very dry conditions, the expression of herbicidal symptoms is delayed, and weeds hardened off by drought are less susceptible to Spotlight Plus.

Ground sprayers

Pre-planting, Tree-line, Vine-line and Forestry weed control

Apply Spotlight Plus as a broadcast application using a conventional boom, orchard or vineyard sprayer with either mechanical or by-pass agitation.

Use a nozzle that produces a Coarse spray quality (according to ASAE S572 specifications).

Spray equipment should be properly calibrated to ensure correct and uniform application. Use a spray volume of 50 to 150 litres per hectare. Experience has shown that increasing spray volumes can improve weed control especially if using a Coarse spray quality. Use the lowest pressure and boom height which provides uniform coverage. Use the higher volume if weed infestation is heavy and/or tall.

Sucker control - General

Apply with a directed sprayer, preferably shielded where possible targeting the basal portion of the trunk depending on height of the sucker region. The sprayer should be fitted with nozzles that produce a Coarse to Very Coarse spray quality (according to ASAE S572 specifications). Air induction nozzles are preferred and off-centre nozzles are a further means of reducing upwards movement of the spray solution. The spray must be directed downwards and away from the canopy foliage to minimise or prevent off-target drift. Off-target drift of Spotlight Plus will cause marked damage to leaves, green stems, buds and fruit which may lead to downgrading or loss of fruit. Suckers must be treated when the tissue is young and not mature and/or hardened off and prior to any lignification (brown bark) occurring.

Sucker control - Grapevines

Preferably apply with a fully shrouded sprayer designed for the purpose targeting the basal 60 cm of the trunk. Air induction, off centre nozzles such as AirMix OC or similar are preferred to minimise the production of fine, driftable droplets. The optimum nozzle configuration is to have nozzles pointing forwards and backwards to ensure all surfaces of the shoots are sprayed. Use sufficient spray volume to ensure that the spray solution thoroughly wets the foliage and stems of unwanted suckers to the point of run-off. A minimum volume of 50 L of spray solution per kilometre of vine row (both sides sprayed) is recommended.

Potato haulm desiccation

Apply Spotlight Plus as a broadcast application using a conventional boom sprayer with either mechanical or by-pass agitation. DO NOT apply with spray droplets smaller than a MEDIUM spray droplet size category according to nozzle manufacturer specifications that refer to the ASAE S572 Standard or the BCPC Guideline.

Knapsack, Pneumatic, Handgun sprayers

Apply Spotlight Plus at the recommended rate of 4 mL per 10 litres (40 mL per 100 litres) in conjunction with labelled handgun rates of a knockdown herbicide in sufficient water to adequately and uniformly wet the foliage of the weeds being sprayed. A spray volume of 500 L to 1000 L per hectare will usually be sufficient but higher volumes may be required for dense taller vegetation.

For sucker control in grapevines, olives, prunes and other tree fruits, tree nuts and assorted tropical and sub tropical fruit apply Spotlight Plus at the recommended rate of 300 mL per 100 litres to the point of run off. If adjustable, the nozzle should be adjusted to give a Coarse spray to minimise risk of harmful off target drift. Refer to the Sucker control sections above.

SPRAYER CLEAN OUT - AFTER THE USE OF SPOTLIGHT PLUS

Thoroughly clean all spray equipment using the following procedure when you have finished spraying highly active materials such as carfentrazone-ethyl.

In addition to the following procedure, ensure proper equipment clean-out for any other products mixed with Spotlight Plus herbicide as specified on the other product labels.

IMPORTANT:

More complete cleaning can be achieved if the spray equipment is cleaned immediately following each use.

Mix only as much herbicide spray solution as needed at a time.

DO NOT store the sprayer for any extended period of time, especially over night, with Spotlight Plus herbicide spray solution remaining in the tank, spray lines, spray boom plumbing, spray nozzles or strainers.

Preparation of the Cleaning Solution:

Prepare a spray equipment cleaning solution by mixing an alkaline detergent eg “OMO” or “SPREE” at a rate of 100g for every 100L of clean water used.

Upon completion of applying Spotlight Plus and before spraying sensitive crops including **canola, pulses such as faba beans, lentils, other legumes and cotton** :

1. Fill the spray tank with sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush hoses, spray boom and spray nozzles **then fill the spray tank to capacity to ensure contact of the solution with all internal surfaces. Let the cleaning solution soak in tank, pump and spray lines overnight.**
2. Before further use of the sprayer, operate the spray system for 15 minutes, then completely drain the sprayer system. Rinse the tank with clean water and flush through the hoses, spray boom, and spray nozzles. Ensure pressure relief valve and line from pump to spray tank are activated, and dump/regulator/compensator valve and line from spray line controllers to spray tank are also activated.
3. If possible spray a pesticide requiring an oil adjuvant eg Achieve & Supercharge onto cereals as a further means of removing possible residues of Spotlight Plus before spraying sensitive crops.

4. Immediately prior to commencement of spraying a sensitive crop, purge the boom lines by operating the spray system onto a fence line or waste area for sufficient time to remove any solution that has been residing in the spray lines. **This is also recommended for subsequent tank loads or if the sprayer has been left standing for a period of time containing spray solution.**
5. If storing equipment for more than 48 hours, preferred practice is to clean spray equipment as outlined above allowing to soak over night, drain and flush with fresh water and leave fresh water in the spray tank, hoses, and spray booms until next use. This water must be drained from the spray boom and lines and flushed out with clean water before beginning any application to a sensitive crop.

Properly dispose of all cleaning solution and rinsate safely in accordance with Federal, State, and local regulations and guidelines.

Do not apply sprayer cleaning solutions or rinsate to sensitive crops.

Should small quantities of Spotlight Plus remain in inadequately cleaned mixing, loading and/or spray equipment, they may be released during subsequent applications potentially causing effects to sensitive crops and other vegetation.

The above method is only effective if the cleaning solution comes into contact with every surface or contact point that may contain even minute carfentrazone-ethyl residues.

CROP PLANT BACK & ROTATION RECOMMENDATIONS

Spotlight Plus Herbicide does not provide residual activity, therefore no crop plant back or rotational restrictions apply. However, check the label of any product mixed with Spotlight Plus Herbicide, to determine any plant back periods or restrictions on use.

RE-ENTRY

Do not allow entry into treated areas until the spray has dried, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under weather conditions, or from spray equipment, which may cause spray drift onto nearby susceptible plants, adjacent crops, or pastures.

Do not apply to trees and vines less than 2 years old or with green bark unless protected from the spray solution by a physical barrier.

Sucker control

Extreme caution must be used during applications when desirable fruit and/or foliage are present in order to avoid leaf necrosis and/or fruit spotting which may lead to downgrading or loss of fruit.

Do not allow spray mist of Spotlight Plus to come into contact with green stem tissue, foliage, blooms or desirable fruit. On seedling or newly transplanted trees do not allow spray to contact green bark on the trunk.

Do not apply under weather conditions which may move spray drift into the canopy, for example where the soil surface is hot, and localised convection wind currents may take droplets upwards onto desirable foliage and fruit.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Highly toxic to algae and aquatic plants.

DO NOT contaminate streams, rivers or waterways with Spotlight Plus or used container.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals 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.

SAFETY DIRECTIONS

Harmful if inhaled. Will irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. Do not inhale vapour or spray mist. When opening the container, mixing and loading and preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow-length chemical resistant gloves. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves, and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126;

MATERIAL SAFETY DATA SHEET

For further information on Spotlight Plus Herbicide refer to the Material Safety Data Sheet (MSDS) which is available from the supplier or from fmccrop.com.au.

Conditions of sale

FMC Crop Protection Pty Ltd will not accept any responsibility whatsoever and howsoever arising and whether for consequential loss or otherwise in connection with the supply of these goods other than the responsibility for the merchantable quality of the goods and such responsibilities mandatorily imposed by Statutes applicable to the sale and supply of these goods. To the extent allowed by such Statutes the liability of FMC Crop Protection Pty Ltd is limited to the replacement of the goods or (at the option of FMC Crop Protection Pty Ltd) the refund of the price paid and is conditional upon a claim being made in writing and where possible sufficient part of the goods to enable proper examination being returned to FMC Crop Protection Pty Ltd within thirty days of delivery.

APVMA Approval No. 61716/60445

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