



IMPORTANT INFORMATION

FOR USE ONLY AS A PROFESSIONAL HERBICIDE

Crops	Maximum individual dose (g product/ha)	Maximum number of applications	Latest time of application
Winter wheat Winter rye Winter triticale Winter spelt Durum wheat	100	1	Before third node detectable stage (GS 32)

Other specific restrictions:

DO NOT use MANHATTAN on oats or barley.

To avoid the build-up of resistance do not apply this or any other product containing an ALS inhibitor herbicide with claims for control of grass weeds more than once to any crop.

The total amount of halauxifen-methyl applied to a winter cereal crop must not exceed 14.04 g/ha (13.5 g a.e/ha of halauxifen-methyl). For autumn sown crops the maximum total must not exceed 7.8 g/ha (7.5 g a.e/ha of halauxifen-methyl) between first leaf unfolded (GS 11) and 31st December. For any applications involving halauxifen-methyl made between January 1st and flag leaf swollen (GS 45) the maximum total dose of halauxifen-methyl applied must not exceed 6.24 g/ha (6 g a.e/ha). A minimum interval of 3 months between applications of products which contain halauxifen-methyl must be respected.

For autumn planted crops a maximum total dose of 3.75 g of florasulam per hectare must be observed for applications made between crop emergence in the year of planting and February 1st in the year of harvest. The total amount of florasulam applied to a cereal crop must not exceed 7.5 g/ha.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

SAFETY INFORMATION

MANHATTAN



Warning

Very toxic to aquatic life with long lasting effects

Collect spillage.

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for triple rinsed empty clean containers which can be disposed of as non-hazardous waste.

Contains pyroxsulam. May produce an allergic skin reaction.

To avoid risks to human health and the environment, comply with the instructions for use

PCS No. 07170



Manhattan[®]

HERBICIDE

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GROUP 2 | 4 HERBICIDES

Product Registration Number: PCS No. 07170

A water dispersible granule (WG) formulation containing 37.5 g/kg of florasulam, 52.1 g/kg of halauxifen-methyl, 187.5 g/kg of pyroxsulam and 266 g/kg of cloquintocet acid (safener).

Arylex[™] is the commonly used trademark of halauxifen-methyl active substance.

A post-emergent herbicide for use on winter cereals (wheat, durum wheat, rye, triticale and spelt) for the control of grass weeds and wide range of broad-leaved weeds.

**READ DIRECTIONS FOR USE ON ATTACHED LEAFLET
PROFESSIONAL USE ONLY**

Triple Rinse Container, Puncture and Invert to Dry at Time of Use

Authorisation Holder:

Corteva Agriscience UK Limited

Unit H4, Building H, Melbourn Science Park, Cambridge Road,
Melbourn, SG8 6HB, United Kingdom.

Technical enquiries: +44 800 689 8899 or email: ukhotline@corteva.com

24 Hour Emergency Telephone Number: +353 818 663 627

National Poison Centre (Dublin): 01 8092166

SAFETY PRECAUTIONS

Operator protection:

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the product.

DO NOT BREATHE SPRAY.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

WASH ANY CONTAMINATION from skin and eyes immediately.

WASH HANDS AND EXPOSED SKIN before eating and drinking, and after work.

Environmental protection:

DO NOT CONTAMINATE WATER with the product or its container. (Do not clean application equipment near surface water/ Avoid contamination via drains from farmyards and roads).

To protect aquatic organisms, respect an unsprayed 10m buffer zone to surface water bodies. Buffer zone can be reduced to 3m if 75% drift reducing nozzles are used according to STRIPE.

Storage and disposal:

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF REACH OF CHILDREN.

KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

DO NOT RE-USE CONTAINER for any purpose.

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NET CONTENTS : 500 G e

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DIRECTIONS FOR USE

IMPORTANT: This information is authorised as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

RESTRICTIONS / WARNINGS

Spray preferably in calm weather with no wind or only if the wind speed is less than or equal to 3 on the Beaufort scale (i.e. a maximum of 19 km/hour) and temperature is not exceeding 25 °C in the shade.

DO NOT treat crops under stress. Stress can be caused by many factors including frost, drought, water logging, trace element deficiency, disease and pest attack etc. MANHATTAN can sometimes induce slight and transient (2-3 weeks) crop yellowing. This has no impact on yield.

DO NOT apply to crops under sown with any legume crop (clover etc...) or crops under sown with grass.

Extreme care must be taken to avoid spray drift onto non-crop plants outside of the target area.

MANHATTAN can be applied with an authorised non-ionic surfactant or a methylated rapeseed oil adjuvant to maximise weed control.

WEEDS CONTROLLED

MANHATTAN is a post-emergence systemic herbicide for the control of a range of annual grass and broad-leaved weeds of winter cereals (wheat, rye, triticale, durum wheat and spelt only).

MANHATTAN applied at the recommended rate of 100 g/ha offers the following level of control:

Weed Species	Maximum growth stage	Susceptibility
Meadow Brome	Apply to actively growing plants up to 4 tillers	S
Rye Brome	Apply to actively growing plants up to 4 tillers	S
Wild Oats	Apply to actively growing plants up to end of tillering	S
Ryegrasses	Apply to actively growing plants up to end of tillering	MS*
Common Poppy (autumn application)	10 cm diameter	S
Common Poppy (spring application)	10 cm diameter	MS*
Speedwells	Apply to actively growing plants up to 6 true leaves	S
Common chickweed	Apply to actively growing plants up to 100mm	S
Red Dead-nettle	Full flowering 5-18 cm height	S
Mayweeds	Apply to actively growing plants up to 8 true leaves	S

Key: S= Susceptible; MS= Moderately Susceptible.

* Susceptible when used with a non-ionic adjuvant or a methylated rapeseed oil adjuvant.

Note MANHATTAN will only control ALS susceptible grass weed species.

RESISTANCE MANAGEMENT

Product	Type	Active	HRAC code	Risk of resistance developing	Resistance action committee
MANHATTAN	Herbicide	florasulam	2	High	WRAG
	Herbicide	halauxifen-methyl	4	Low	WRAG
	Herbicide	pyroxsulam	2	High	WRAG

MANHATTAN contains three active ingredients: florasulam, halauxifen-methyl and pyroxsulam, so the risk of resistance is reduced for broad leaved weed species. Halauxifen-methyl is an arylpicolinate, and the risk of resistance developing to this active is considered to be low. Florasulam and pyroxsulam are triazolopyrimidine sulfonamides and as ALS inhibitors there is a risk of resistance building to these active ingredients and so precautions must be taken to minimise the risk.

Resistance management for grass weeds species.

1. Do not apply this product to grass weed species with known or suspected resistance to the ALS herbicides
2. To avoid the build-up of resistance do not apply this or any other product containing an ALS inhibitor herbicide with claims for control of grass weeds more than once to any crop.
3. Good cultural techniques such as ploughing, delayed autumn drilling, use of higher seed rates and competitive cultivars, should be adopted. See local resistance guidelines.
4. Use mixtures of herbicides with different modes of action at full-recommended dose rates.
5. Apply herbicides at optimum timing and environmental conditions.

Resistance management for broad-leaved weed species.

1. Use recommended label rates to maximise control and minimise seed return.
2. In areas where resistance to ALS herbicides has developed to the target species apply MANHATTAN in sequence or mixtures with herbicides with a non-ALS mode of action.
3. Apply herbicides at optimum timing and environmental conditions.

Use MANHATTAN as part of an Integrated Crop Management Strategy (ICM) strategy incorporating other methods of control, including where appropriate other herbicides with a different mode of action.

For further advice on resistance management contact your agronomist or advisor and consult the WRAG-UK website.

CROP SPECIFIC INFORMATION

Crops

MANHATTAN may be used on all commercial varieties of winter wheat, winter rye, winter triticale, winter spelt and durum wheat between the growth stages given below.

Time of application

Apply MANHATTAN in the autumn or spring from growth stage GS12 (2 leaves unfolded). A maximum of 1 application can be made up to and including GS32 (before third node detectable stage). Best results will be achieved when target weeds are small and actively growing.

Rate of use

Apply 100 grams of MANHATTAN in 100 to 400 litres of water per hectare, using spray equipment to give good even coverage of the crop. The higher volumes are recommended when the crop is dense. Care should be taken not to overlap spray swaths. MANHATTAN can be applied with any authorised non-ionic surfactant or a methylated rapeseed oil adjuvant to maximise weed control.

Soil type

MANHATTAN can be used to all soil types.

Rainfastness

MANHATTAN is rainfast 60 minutes after application, providing good drying conditions.

FOLLOWING CROPS

After an application of MANHATTAN at 100 g/ha up to growth stage 32 there are no restrictions for sowing any succeeding crops.

Crop failure

In the event of a cereal crop failure after the crop has been treated with MANHATTAN, the following crops: spring cereals and maize can be drilled after a minimum interval of 4 weeks. It is important to consider all herbicides used on the treated field before deciding which new crop to sow.

MIXING AND SPRAYING

Mixing

Half fill the spray tank with clean water and start the agitation. SHAKE THE CONTAINER WELL before use and pour in the required amount of product. Rinse any empty containers thoroughly and add rinsings to the spray tank. Add the remainder of the water and continue agitation until spraying is completed. Spray solution MUST be used on the day of mixing and must NOT be left overnight.

Application method

Apply MANHATTAN only with a boom sprayer. Use a spray pressure as low as possible and a boom height adapted to the nozzle type and the sprayed vegetation, while ensuring good spray distribution. Use nozzles suitable for herbicide applications.

Boom height should be adjusted to ensure even coverage of the crop, particularly at later growth stages. The correct height is one at which the spray from alternate nozzles meets just above the crop.

Spray quality

Apply MANHATTAN as a MEDIUM spray as defined by the BCPC system.

Tank cleaning

To avoid subsequent injury to crops other than winter wheat, spelt, durum wheat, rye and triticale, immediately after spraying MANHATTAN, all spraying equipment must be thoroughly cleaned both inside and out using a proprietary tank cleaner such as All Clear Extra at 0.5 % v/v as follows:

1. Immediately after spraying thoroughly and completely rinse all internal surfaces.
2. Rinse inside of tank with clean water and flush through booms and in-line strainers using at least one tenth of the spray tank volume. Drain tank completely.
3. Fill tank with clean water (minimum 10% of tank capacity) and add tank cleaner at the recommended rate and agitate for 15 minutes. Flush the boom and hoses and drain tank completely.
4. Nozzles and filters should be removed and cleaned separately with a tank cleaner at the recommended rate.
5. Rinse the tank with clean water and flush through the boom and hoses using at least one tenth of the spray tank volume. Drain tank completely.
6. For disposal of washings, follow Code of Practice for Using Plant Protection Products. Do not spray onto sensitive crop or land intended for cropping with sensitive crop.
 1. **Note:** If it is not possible to drain the tank completely, step 3 must be repeated before going onto step 4.

COMPATIBILITY

When tank mixes are to be used, each product should be added separately to the spray tank, taking due note of any instructions given as to the order of mixing.

Products should only be tank-mixed if each product can be applied with the label recommendations for its use. For further information contact your local Corteva Agriscience distributor.

TRADEMARK ACKNOWLEDGEMENTS

MANHATTAN is a trademark of Corteva Agriscience and its affiliated companies.

All other brand names are trademarks of other manufacturers for which proprietary rights may exist.

CORTEVA AGRISCIENCE CONDITIONS OF SUPPLY

All goods supplied by us are of high grade and we believe them to be suitable but, as we cannot exercise control over their storage, handling, mixing or use, or the weather conditions before, during or after application which may affect the performance of the goods, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded. No responsibility will be accepted by us or re-sellers for any failure in performance, damage or injury whatsoever arising from their storage, handling, application or use. These conditions cannot be varied by our staff or agents whether or not they supervise or assist in the use of such goods.

All manufacturers trademarks are duly acknowledged

For further information please contact Corteva Agriscience UK Limited

To access the Safety Data Sheet for this product scan the QR code or use the weblink below:



<https://www.corteva.ie/content/dam/dpagco/corteva/eu/ie/en/files/sds/MANHATTAN-IRL-SDS.pdf>

Alternatively contact your supplier.

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