

Garryowen XL™

Garryowen XL is a systemic herbicide, as a soluble concentrate, for the control of annual and perennial grass and broad-leaved weeds in:

- Barley
- Durum Wheat
- Field beans
- Forest
- Forest nursery
- Grassland
- Green cover on land not being used for crop production
- Linseed
- Non-cropped areas
- Oats
- Oilseed rape
- Orchards: apple, pear, cherry, damson and plum
- Peas (combining)
- Stubbles of all edible and non-edible crops
- Wheat

Contains 360 g/l (30.9% w/w) glyphosate acid

Manufacturer:

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PROTECT FROM FROST

20 Litres

FOR USE ONLY AS AN AGRICULTURAL, HORTICULTURAL, INDUSTRIAL AND FORESTRY NON-SELECTIVE HERBICIDE

(Please see inside for DIRECTIONS FOR USE)

FOR PROFESSIONAL USE ONLY

SAFETY INFORMATION

Keep out of reach of children.

Avoid breathing spray.

Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN: Gently wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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.

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

PCS No: 05660

PRECAUTIONS

In case of emergency contact the Poisons Information Centre Tel: +353 1 8092566 or +353 1 8379964

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).

DIRECTIONS FOR USE

The following table pertains to and forms part of the statutory conditions relating to use

FOR USE ONLY AS AN AGRICULTURAL, HORTICULTURAL, INDUSTRIAL AND FORESTRY NON-SELECTIVE HERBICIDE				
Crop or situation	Maximum individual dose of product	Maximum number of treatments	Latest time of application	Maximum Total Dose of product
Winter and spring wheat Winter and spring barley Winter and spring oats Durum Wheat	4 l/ha	One per season	7 days before harvest	4 l/ha
Oilseed rape, linseed	4 l/ha	One per season	14 days before harvest	4 l/ha
Peas (combining), field beans	4 l/ha	One per crop	7 days before harvest	4 l/ha
Orchards of: Apple and pear	5 l/ha	One per season	After leaf fall/before green cluster stage	5 l/ha
Orchards of: Cherry, damson and plum	5 l/ha	One per season	After leaf fall/before white bud stage	5 l/ha
Forestry: weed control Forestry nursery	5 l/ha	Two per year	-	10 l/ha
Stubbles of all crops	1.5 l/ha 4 l/ha	One per season One per season	2 days before drilling 5 days before drilling	1.5 l/ha 4 l/ha
Grassland	6 l/ha	One per season	5 days before cutting/grazing	6 l/ha
Non-cropped areas	6 l/ha	Two per year	-	12 l/ha
Green cover on land not being used for crop production (set-aside)	4 l/ha	One per season	24 hours before cultivating	4 l/ha

GENERAL INFORMATION

Garryowen XL is a foliar acting herbicide that controls annual and perennial grasses and most broad-leaved weeds when used as directed. It is translocated from treated vegetative growth to underground roots, rhizomes or stolons. Leaf symptoms, being a reddening then yellowing of the foliage, are first seen on grass weeds but take longer to appear on broad leaved weeds.

It is particularly important that the weeds have sufficient leaf growth and are actively growing when treated.

Perennial grass weeds must have produced fresh leaves, which are green and vigorous. Common couch/scutch is most susceptible to Garryowen XL when it is tillering and when new rhizomes have begun to grow. This is usually when the plants have about 5 - 6 leaves, each with approximately 12-15cm (5-6") of new growth.

The majority of perennial broad-leaved weeds are most susceptible if treated when they are actively growing and are at or near flowering stage. Annual weeds should be actively growing with grasses having at least 5cm (2") of leaf and broad-leaved weeds at least two expanded true leaves when sprayed. Couch/scutch grasses and other grass and broad-leaved weeds are less susceptible to Garryowen XL when growth is restricted by drought, waterlogging, frost, very high temperatures or natural dieback. Efficacy will be reduced if such conditions occur at or immediately after spraying.

Occasionally a slight check to crop growth may occur, particularly after direct drilling when crop seeds germinate amongst a mass of decaying foliage, stolons, rhizomes or roots. Thorough cultivations are necessary to disperse or bury decaying organic matter. Consolidate loose soils and ensure crops are adequately fertilised and appropriate measures are taken to prevent insect and fungal damage to the following crop, especially where following grassland.

Do not apply lime, fertiliser, farmyard manure, pesticides or similar materials within 7 days of Garryowen XL.

Note: Garryowen XL does not give acceptable control of horsetail (Equisetum arvense).

WEATHER CONDITIONS

A period of at least 6 hours and preferably 24 hours free of rain must follow spraying. Do not spray onto weeds suffering from drought stress as reduced control may occur. Do not spray in windy conditions as drift onto other crops or vegetation can cause severe injury or destruction. Do not spray during frosty weather that prevents active growth and can induce weed senescence.

WEED CONTROL IN STANDING CEREAL CROPS (PRE-HARVEST)

Weeds Controlled: Couch/scutch grass (Elymus repens) Black bent (Agrostis gigantea)

Creeping bent (Agrostis stolonifera)

Onion couch (Arrhenatherum elatius var. bulbosum) in winter barley only - see Note.

Perennial broad-leaved weeds.

Crops: Winter and spring wheat, including durum wheat, and winter and spring oats destined for milling or feed.

Barley destined for malting or feed. (Consult purchasers of crops grown on contract and prospective purchasers of malting

grade barley before treatment).

DO NOT TREAT CROPS INTENDED FOR SEED. DO NOT TREAT UNDERSOWN CROPS.

Time	Method	Dose Rate
Spray when the moisture content of the grain measures less than 30%.	Spray the crop and weeds overall. Use high clearance tractors with narrow wheels and crop dividers. Adjust boom height to maximise spray retention on the target weeds.	Annual weeds and grass or low couch/ scutch grass infestations up to 25 shoots/m²: 2 l/ha
Target weeds must be green,		Apply in 80-150 l/ha water for this dose rate
actively growing and	After spraying:	
accessible to the spray.	Wait at least 7 days before harvesting. Treated	Low-medium couch/scutch-grass
	straw must be chopped and incorporated or removed, after which normal cultivations may	infestations, up to 75 shoots/m²: 3 l/ha
	be resumed. Treated straw must be used for	Medium-high couch/scutch-grass
	feed and litter, but must not be used for horticultural purposes.	infestations, over to 75 shoots/m²: 4 l/ha
		Perennial broad-leaved weeds; other
		perennial grasses: 4 l/ha
		Apply in 150 - 250 l/ha water.

Note: to gain successful control of onion couch with Garryowen XL, the weed must be treated BEFORE the bulbous bases have matured. Application when the bulbous bases have matured will not prevent regeneration of the weed. Early ripening winter barley is the only crop likely to present an opportunity for pre-harvest control of onion couch.

WEED CONTROL IN STANDING OILSEED RAPE AND LINSEED (PRE-HARVEST)

Weeds Controlled: Couch/scutch grass (Elymus repens) Black bent (Agrostis gigantea)

Creeping bent (Agrostis stolonifera) Perennial broad-leaved weeds.

Crops: Oliseed rape, winter or spring.

Linseed, winter or spring

This treatment is suitable only for uniform, evenly maturing crops proceeding to harvest in prime condition.

DO NOT TREAT CROPS INTENDED FOR SEED.

Time	Method	Dose Rate	
Weed control: Spray 2-3 weeks before harvest when the natural ripening of the seed is	Spray the crop and weeds overall. Minimise crop damage by use of high clearance tractors with narrow wheels and crop	Low-medium couch/scutch-grass infestations, up to 75 shoots/m ² :	3 l/ha
progressing and the moisture content of the seed measures less than 30%.	dividers. After spraying:	Medium-high couch/scutch-grass infestations, over 75 shoots/m²:	4 I/ha
Target weeds must be green, actively growing and accessible	Direct combine harvest the crop when fit. Treated straw must be chopped and incorporated or removed, after which normal	Perennial broad-leaved weeds; other perennial grasses:	4 I/ha
to the spray.	cultivations may be resumed.	Apply in 200 - 250 l/ha water.	

WEED CONTROL IN FIELD BEANS AND PEAS (PRE-HARVEST)

Weeds Controlled:

Couch/scutch grass (Elymus repens) Creeping bent (Agrostis stolonifera) Black bent (Agrostis gigantea) Perennial broad-leaved weeds

Field beans, winter or spring. Crops:

Peas to be harvested dry.

DO NOT TREAT CROPS INTENDED FOR SEED.

ONLY CROPS DESTINED FOR ANIMAL FEED MAY BE TREATED PRE-HARVEST

Time	Method	Dose Rate
Spray when the natural ripening of the seed is progressing and the moisture content of the seed	Spray the crop and weeds overall. Minimise crop damage by use of high clearance tractors with narrow wheels and crop dividers.	Low-medium couch/scutch grass infestations up to 75 shoots/m²: 3 l/ha
measures less than 30%.		Medium-high couch/scutch grass
Target weeds must be green,	After spraying:	infestations over 75 shoots/m²: 4 l/ha
actively growing and accessible	Wait at least 7 days before harvesting. Direct combine	
to the spray.	harvest the crop when fit. Treated straw must be	Apply in 200-250 l/ha water.
	chopped and incorporated or removed, after which	
	normal cultivations may be resumed.	

ORCHARDS		
Weeds Controlled: Most a	nnual and perennial weeds.	
Crop	Time and Method	Dose Rate
Established (minimum 2 years) trees of: Apple Pear Cherry Damson Plum	Apply as a directed MEDIUM or COARSE spray. Spray after leaf fall in autumn or before green cluster stage of apple and pear or white bud stage of stone fruit. Avoid spraying or allowing drift to contact the trunk above 30cm (12") from the ground, or any branches. Spray must not contact any damaged bark.	5 I/ha Apply in 250 I/ha water.

FORESTRY/WOODLANDS		
Use	Dose Rate	Remarks
Before planting: Most broad-leaved and grass weeds.	5 l/ha 4 l/ha	If the ground has been disturbed by forestry operations, allow the weeds to recover. Apply when weeds are showing green leaf and are actively
Moderate control of many young woody weeds	Hydraulic sprayers: apply in 80 - 250 l/ha water . Rotary atomisers: apply in total spray volume of 40 l/ha.	growing. Wait at least 7 days before any cultivations or before planting trees.

ST	UBBLE - ANNUAL AND PERENNIAL V	VEEDS, VOLUNTEERS
Creeping	bent (Agrostis stolonifera) Pe asses and broad-leaved weeds Vo	nck bent (Agrostis gigantea) rennial broad-leaved weeds lunteer cereals and potatoes (autumn only).
Time	Method	Dose Rate
Autumn/winter applications: Spray when perennial weeds are actively growing, especially after mid-October. Couch/scutch grass should have at least 6 new leaves approx. 12cm long.	After harvest: Do not cultivate. Remove straw. Allow weeds to regrow. Spray during mild conditions. Allow volunteer potatoes to make ample top spray well before onset of frost or natural set After spraying: If before mid-November, wait at least 5 days b If after mid-November, wait for perennial grass red/yellow before cultivating.	Low-medium couch/scutch-grass infestations, up to 75 shoots/m²: leaves to turn Medium-high couch/scutch-grass
Spring applications: Spray when weeds are actively growing as for autumn applications. Roots chopped by cultivations must show new leaf growth to be killed.	After harvest: Cultivate as required. Leave for regrowth to appear - allow a minimused growth before spraying. After spraying: Wait at least 5 days before cultivating. Re-treat necessary pre-harvest or in autumn as emerging may be incomplete.	Note: the effect of 2 litres product/ha rate as the long-term control of couch/scutch grass is not known.

STUBBLE/CULTIVATED LAND - ANNUAL WEEDS/VOLUNTEERS Weeds Controlled: Annual grasses and broad-leaved weeds Crops: Any crop to follow application.		
Autumn/spring/summer applications: Spray when weeds are actively growing.	After harvest or cultivations: Allow ground to remain undisturbed for as long as practicable to allow weeds to regrow. After spraying:	1.5 l/ha Apply in 80-250 l/ha water.
For optimum control: Annual grasses should have at least 10cm of green leaf. Annual broad-leaved weeds should have at least 2 true leaves.	Wait at least 24 hours before cultivating. Wait at least 48 hours before drilling.	

		GRASSLAND	
	Perennial rye	ow-grass (Poa annua) Italian ryegrass (Lolium mu grass (Lolium perenne) Broadleaf dock (Rumex ob ele (Urtica dioca) on.	
l	Time	Method	Dose Rate
	Spray when grasses and weeds are actively growing at the following times and growth stages: Annual grasses and annual broadleaved weeds: Spring, summer or autumn. Annual grasses have at least 10cm of green leaf. Annual broad-leaved weeds have at least 2 expanded true leaves. Perennial grasses and perennial broad-leaved weeds: Mid to late summer. Perennial grasses have at least 12cm of leaf or 5 fully expanded leaves. Perennial broad-leaved weeds have substantial leaf area or are near flowering.	Lightly cut or graze and allow regrowth for about 4 weeks until the recommended growth stages are reached. Spray at the dose rate recommended for the weed or grass type. Wait at least 5 days, when the leaves become yellowed, before removing the growth for conservation or by grazing as required, prior to cultivating or drilling. Surface mats of old grassland must be thoroughly broken by cultivations before reseeding. Either defer seeding until the following spring to allow surface mats to decompose or apply 2.5 tonnes/ha (1 tonne/ac) of ground limestone to the surface mat not less than seven days after treatment followed by rotary cultivation to break the surface and incorporate the ground limestone into the soil. Seeding may be conducted as required thereafter provided that the seeds are in contact with mineral soil.	1-2 years old, only annual weeds and grasses: 3 l/ha 2-4 years old, with perennial grasses: 4 l/ha Long leys e.g. 4-7 years old with perennial broad-leaved weeds: 5 l/ha Permanent grassland with ragwort or predominantly fine-leaved grasses: 6 l/ha
		7	

Weeds Controlled:	Most annual and perennial weeds.	♦
Area of use	Time and Method	Dose Rate
Around buildings.	Apply at any time of the year when weeds are showing green leaf and are actively growing.	General Use: 4 I/ha
On industrial sites.	Weeds germinating after application will not be controlled. Avoid drift onto crops, lawns, amenity plants	Perennial broad-leaved weeds present: 6 l/ha
Firebreaks.	or any desirable species. DO NOT USE UNDER GLASS OR POLYTHENE.	Hydraulic sprayers:
Pavements.	DO NOT SPRAY HEDGE BOTTOMS.	apply in 80 - 250 l/ha water
Verges along public paths and roadways.		Knapsack sprayers: apply in 100 - 250 l/ha water
Around traffic signs and advertising hoardings.		Rotary atomisers: apply in total spray volume of 40 l/ha.
Site preparation for landscaping projects; golf courses etc.		

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Weeds controlled: Italian ryegrass (Lolium multiflorum) Annual meadow grass (Poa annua)

Broadleaf dock (Rumex obtusifolius) Perennial ryegrass (Lolium perenne)

Common nettle (Urtica dioca) Crop: Any crop to follow application.

Users must ensure themselves compliant with the management rules of any grant-aided scheme before use; the guidance given in the following may be changed in future years.

Time	Method	Dose Rate
Spray whilst the green cover is actively growing at any time consistent with the prevailing weather conditions and within the management rules of any grant aided scheme. Deep-rooted perennial	 Do not cut or cultivate prior to applying this product in this situation. Spray before weeds set seed After spraying do not cut, cultivate or prepare land for the next crop until permitted to do so by the management rules; in any event do not cut or cultivate for 1 day (after 1.5 l/ha) or 5 days (after 3-6 l/ha) after application. 	Annual weeds and grasses: 1.5 I/ha Apply in 80-150 I/ha water for this dose rate (note - if the green cover is dense and/or well established, use the higher dose of 3 I/ha in 150-250 I/ha water - see below).
broad-leaved weeds are best controlled when well grown and are at or near		Dense and/or well established green cover: 3 l/ha
flowering.		Perennial grasses and broad-leaved weeds: 4 I/ha Apply in 150-250 I/ha water.

WICK/WIPER APPLICATORS (E.G. WEEDWIPER MINI)

Certain weeds, particularly those with an erect growth habit and having a spatial separation from desirable species, can be effectively controlled by wiping a concentrated solution of Garryowen XL onto the leaves or stems. Weeds must be actively growing at application. Do not apply when rain is expected within 6 hours as, apart from unsatisfactory weed control, herbicide might be transferred to desirable species by rain splash or foliar contact.

Garryowen XL dilution

The maximum concentration used must not exceed the following:

Weedwiper mini: 1 volumes of product: 2 volumes of water

Other wipers: 1 volumes of product: 1 volumes of water for normal conditions; under warm, dry conditions use

1:2 dilution with water.

Weedwipers may be used in any crop where the wiper does not touch the growing crop.

Note: for ease of identification of treated weeds, a suitable commercially available water soluble dye may be added to the prepared solution at 1ml dye per 10 litres of prepared spray solution.

MIXING

Tractor mounted sprayers

Pour the recommended quantity of Garryowen XL into the spray tank already half-filled with clean water and under agitation. Top up the spray tank with more clean water to the required level, whilst maintaining agitation Spray out on the day of mixing.

Knapsack sprayers

Add the recommended quantity of Garryowen XL to the knapsack spray tank approximately one-third filled with clean water. Agitate thoroughly with a clean rod or by shaking after replacing the lid until thoroughly mixed. Top up the tank with more clean water to the required level and agitate thoroughly before use. Spray out on the day of mixing.

DO NOT MIX, APPLY OR STORE GARRYOWEN XL IN GALVANISED OR UNLINED MILD STEEL CONTAINERS OR TANKS. KEEP TANKS WELL VENTED AND CLEAR OF ALL SOURCES OF IGNITION.

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.

APPLICATION & SPRAY QUALITY

Conventional hydraulic sprayers

Knapsack sprayers

Prepared spray solution should be applied as a MEDIUM or COURSE quality spray (BCPC definition) at nozzle pressures not exceeding 2.5 bar (35 psi).

Garryowen XL is a systemic weedkiller and is active at low doses. Always take care to avoid spray drift. DO NOT SPRAY in windy weather or near to desirable species or amenity plants.

SUITABLE NOZZLES FOR HYDRAULIC SPRAYERS		
Sprayer type	Low Volume Application	Medium Volume Application
Tractor mounted or drawn	Hardi 4110-14 or equivalent nozzles	Hardi 4110-20: 4110-30; Lumark 04-F110; 08-F110 Teejet 11004; 11008 ir equivalent nozzles
Knapsack	Cooper Pegler VLV Orange VLV Blue	Hardi 4110-16 Lumark 03-F110 Polyjet green; blue: red

SOILS

Garryowen XL may be used to control weeds on all mineral or organic soils or surfaces, including ash and gravel. Only weeds showing green leaf at the time of application can be killed. There is no residual activity with Garryowen XL.

COMPATIBILITY

DO NOT mix with any herbicide, insecticide or fungicide.

FUTURE PLANTING

Garryowen XL has no long-lasting herbicidal activity in soils after application. Agricultural and horticultural quality soils may be planted up with trees after not less than 7 days after application, unless directed otherwise. Other amenity plants may be planted after the treated vegetation has died back or after cultivation. Under normal weather conditions, cultivations may be conducted 7 days after treatment. Under poor growing conditions wait for the characteristic red/yellow leaf symptoms to appear before cultivating.

CARE OF EQUIPMENT

Wash equipment thoroughly after use with water and cleaning agent to remove traces of herbicide. Traces of herbicide left in the equipment may damage crops sprayed later.

KNAPSACK RATE RECKONER		
MEDIUM VOLUME APPLICATION		
Product Recommendation (Litres of product in I/ha of water)	Amount of Garryowen XL per 10 litres to treat 400 m ²	
3L in 250L per hectare	120 ml	
4L in 250L per hectare	160 ml	
5L in 250L per hectare	200 ml	
6L in 250L per hectare	240 ml	
LOW VOLUME APPLICATION		
Product Recommendation (Litres of product in I/ha of water)	Amount of Garryowen XL per 10 litres to treat 1000 m ²	
3L in 100L per hectare	300 ml	
4L in 100L per hectare	400 ml	
5L in 100L per hectare	500 ml	
6L in 100L per hectare	600 ml	