



EXCELLENCE IN EQUINE NUTRITION

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Effective drainage can help control weeds

Teagasc equine specialist **Wendy Conlon** and sustainability advisor **Mary Roache** explain how best to control weeds in your horses' paddocks

LOW levels of weeds do not affect grass production and can be beneficial to the environment. The removal of low levels of weeds with chemicals may not be cost effective.

Don't underestimate grassland husbandry practices such as addressing fertility with lime and fertiliser; topping and mowing; or stitching in new seed as weed control measures. Drainage, including new drains and cleaning of existing drainage infrastructure can be an effective weed prevention measure.

Identify the underlying cause of waterlogged soil by digging test pits before remedial action such as field drains, sub-soiling or mole drains are considered. A vigorously growing grass sward can out-compete weeds and prevent new weeds growing. The aim is to encourage grassland to be competitive and dense and reduce the emergence of weeds.

However, when weeds reach density levels of 10 to 20% of the total sward, they will impact on either grassland quality or productivity.

Poor grass growth, bare patches, and poached fields are happy hunting ground for weeds. High levels of weeds in pastures not only reduce the pasture's nutritional value, but restrict grazing areas and valuable grass growth. Certain weeds can make conserved forage unpalatable, while others are poisonous.

Where weeds are affecting productivity significantly it is important to control them. Best control from any chemical is achieved on actively growing young plants sprayed in spring or early summer before the weeds flower.

Ragwort, thistle and dock are scheduled as noxious weeds under the Noxious Weeds Act 1936.

Ragwort

Ragwort (*Senecio jacobaea*) is a highly poisonous plant causing serious cumulative damage to the liver. Early signs of ragwort poisoning include loss of appetite, weight loss, diarrhoea, depression, sensitivity to sunlight and mild jaundice. More severe signs include compulsive

walking, circling, head-pressing (e.g. against a wall), apparent blindness and extreme depression.

On good pasture horses avoid eating ragwort, but where there is over-stocking and grass is scarce ragwort may be unavoidably eaten.

Poisons in ragwort are not destroyed by drying, and conserved forage containing ragwort is also a potential source of poisoning. The only way to safeguard against loss from ragwort poisoning is to eradicate the weed.

Pulling

Pulling by hand is recommended where infestation is not severe and labour is available. Pulling after heavy rainfall from soft ground gives best results when done in early summer before seed has set. Pulled plants must be removed and destroyed. As the rosette stage is not usually removed by pulling, repeat for two consecutive years to achieve satisfactory eradication. Wear gloves when pulling as the toxins are said to affect humans through the skin.

Cutting

Cutting before flowering prevents the weed from seeding and spreading. This is of limited value unless carried out over a number of years and accompanied by good grassland management.

Chemical control

No single herbicide treatment will completely eliminate ragwort due to successive germination of the weed. Ragwort plants become more palatable after spraying and livestock must be kept off treated fields until all plants are dead and removed. The removal of stock from pastures during peak grazing season is usually impractical and therefore spraying is generally carried out during the winter.

Spear thistle

Spear thistles (*Cirsium vulgare*) depend on their seed for regeneration so prevention of seeding is of crucial importance.

Physical control

As spear thistle does not produce a

Spraying off rushes in a small paddock \ Philip Doyle



Pulling ragwort by hand is recommended where infestation is not severe and labour is available. It is advisable that the operator wears gloves during this procedure



Docks should be 15cm to 25cm high or across and before a seed head begins to emerge in order to ensure best control from using a translocated herbicide

Creeping thistle

Creeping thistle (*Cirsium arvense*) is the most widespread and troublesome of the thistle family. It mainly spreads by creeping roots which can be metres in length but also spreads by wind-blown seeds (July and August).

It can grow new plants from small fragments of its roots and thrives in fertile grassland. Winter poaching and over-grazing in spring encourages spread.

Physical control

Cutting is not an effective means of control for creeping thistle, as it can regenerate from its roots. Though topping can be a useful tactic to even up the growth stages before spraying.

spreading root system it is possible to control by hand hoeing individual plants and small patches, provided the growing point and top 20-40mm of the tap root are removed. This should be done before mid-July when the plants are in late bud or early flower stage.

Topping may help to reduce seed production but is of limited value as spear thistles mature over an extended period and if soil moisture is adequate thistles are likely to recover and regrow.

Chemical control

For effective chemical control thistles must be growing actively. Spraying should be completed before the centre flowering stem develops (i.e. up to the end of June).

“Cleaning of existing drainage infrastructure can be an effective weed prevention measure”



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Environmental Protection Agency update on exceedances in drinking water supplies

Year	Exceedances	Supplies
2019	82	27
2018	85	34
2017	150	49
2016	137	44

Breakdown of exceedances by pesticide 2019 (EPA)

Pesticide	Exceedances	%
MCPA	52	63.4
Fluroxypyr	7	8.5
2, 4-D	6	7.3
Pesticide total	5	6.1
Glyphosate	4	4.9
Bentazone	3	3.7
Others	5	6



Chemical control of weeds

Legislative Requirements and Equipment

- All persons that apply pesticides must be registered as a professional user with D.A.F.M. and have completed the pesticide application module.
- A person who engages in weed licking on a farm other than their own must have completed a Lantra Level 2 course.
- Since September 2019 the initial test for all types of Pesticide Application Equipment (PAE) is due when the equipment is three years old.
- Mandatory testing of weed lickers and all boom sprayers and quad sprayers comes into place from the end of December 2020.
- Records must be kept of all sprays applied on farm as well as all non-chemical methods of control used (Integrated pest management).

Ensure any application equipment used is properly calibrated and in good working order.

Consider using drift-reducing nozzles if spraying. Keep the spray boom as low as possible to the ground and ensure the correct method of application is used (e.g. only boom sprayer for MCPA).

For your own health and safety always wear personal protective equipment when handling or applying pesticides or any other chemical.

Product labels

All pesticides/herbicides have labels with data on weeds targeted, dose rates, dilution rates, which equipment it is licensed for use in, what buffer zone applies and advised timing of spray. It is important to read and follow the printed information to get optimum results. Ensure that rates of application advised on labels are not exceeded.

Where a product label makes reference to an aquatic buffer zone there is a legal requirement that the product shall not be applied within the prescribed distance from the water course. Where the label does not prescribe a specific buffer zone, a minimum distance of one metre of untreated area must be maintained between the treated area and the water course. Also, unless the label specifically says the product has licence to be used in a knapsack then it is not to be applied in this manner.

When and how to control

For chemical control, at least three inches of new weed growth should be visible. Mild day and night temperatures are preferable. Calm conditions are required when using a boom sprayer. Do not spray if rain or strong wind is forecast in the next 48 hours. Use the recommended volume of water. Ground conditions must be good, with no standing water in the field.

Take every precaution during mixing and preparation to avoid spills and drips. Never fill the sprayer from a watercourse. Minimise water volumes (rain and washings) on the handling area.

Cleaning equipment

Clean and wash down application equipment at the end of the day well away from water bodies or open drains. Tank washings should be sprayed onto a previously sprayed area.

Empty containers should be triple rinsed and washings put in the sprayer. Ensure empty, triple-rinsed containers and foil caps are disposed of in accordance with Good Practice Guide for Empty Pesticide Containers.

Follow up

Keep livestock off the sprayed area for seven to 21 days, dependant on product information advisory. A follow-up spray may be needed the following spring or autumn depending on how established the weeds have become.

Water quality

Unfortunately, evidence of declines in water quality in areas where pesticides are not used in the appropriate manner continues. While the main culprit is MCPA which is commonly used to control rushes there is quiet often a mix of other pesticides also detected. The onus is on everyone to protect all water sources if they choose to use pesticides.

It is advisable to consult with an agricultural advisor before undertaking weed control to discuss options.

For more information visit:

- irishstatutebook.ie
- teagasc.ie
- pcs.agriculture.gov.ie
- www.epa.ie

Creeping buttercups and meadow buttercups can be widespread in paddocks and can smother out grass. Spraying before they flower gives best control



To achieve the best results from spraying, thistles should have four to 10 leaves and be 15-25cm high

Chemical control

Control at rosette stage when actively growing up to 200mm high or across.

With thistles chemicals such as 2,4-D; MCPA and dicamba reduce top growth but do not translocate to the roots. For more persistent control use Thistlex, Pastor Trio or Forefront, but follow-up sprays will likely be needed.

Curlled and broadleaved docks

Both dock species (*Rumex crispus* and *Rumex obtusifolius*) produce many seeds that can remain viable in the soil for decades. Spread may occur from fragments of taproot. Growth commences in early summer. They flower between June and October.

Physical control

Pulling by hand is only effective in small infestations. Hand-pulling shoots before they have set seed can be effective when the soil is moist, but most need to be dug out, with care not to leave fragments behind.

Continued topping before flowering will prevent seeding and wear down the taproot. Cutting or topping should not be carried out for at least two weeks after spraying to allow the herbicide fully penetrate the root.

Chemical control

Spraying of docks should be done in warm weather, and if infestation is heavy, a second spraying may be required. Spraying should be carried out when the first flower stalk is emerging from May until the end of summer while docks are growing vigorously and not yet setting seed. Use of products based on dicamba, triclopyr and fluroxypyr (e.g. Dockstar Pro, Ban Dock) will give season-long control of docks plus a wide range of common grassland weeds.

Other weeds

Buttercup, dandelions, and plantains can all be problematic. Nettles can be equally troublesome and can grow along hedges and ditches and along fencing. Where infestation is low they can be tolerated. Knapsack spraying could be an option. GrazonPro is an example of a product which is cost-effective for spot treatment of a wide range of weeds.



Evidence of declines in water quality in areas where pesticides are not used in an appropriate manner continues