

Grassland weed control with Phenoxy herbicides

60 years of success



Sixty years ago a group of products called phenoxies were invented in Britain and the United States. Phenoxies are a general term now used for a group of herbicides that mimic the effect of natural plant growth hormones called auxins. These hormones can only be found in plants. Auxins regulate the growth of the plant and one of their functions is to make the plant grow towards the light. Phenoxies have the same mode of action as auxins, overdosing the plant leading to uncontrolled growth, thickening and twisting causing the plant to grow itself to death. Phenoxies are truly systemic and travel throughout the plant.

Low cost solution for grassland weeds

Phenoxies are the only solution for many grassland weed species. For some of the top weeds such as Thistles, Docks and Nettles, phenoxies can give excellent control. Choice of the right product and application at the best timing is important.

Resistance problems

Because phenoxies mimic a natural plant hormone it is very difficult for a weed to develop resistance. Unlike many modern chemicals, there have been few resistance issues with phenoxies.

No residue issues with manure

There are no problems of residues in manure with this chemistry.



Twisting effect caused by phenoxies



Why control grassland weeds?

- Permanent grassland will succumb to patches of Docks, Nettles, Thistles and other weeds reducing grazing area and yield of silage or hay. A 10% infestation by a species such as Dock can result in a 10% reduction in yield. Similar reductions can occur with Thistle infestations.
- Weed infestation will reduce palatability which results in selective grazing and accelerates sward degeneration.
- Long term leys will degenerate as weed grasses take over.
- Weeds poisonous to livestock such as Ragwort present a major threat to livestock.
- Several weeds are covered by legislation and enforcement orders can be issued for their control.
- Most weeds can produce thousands of seeds which can germinate and cause problems over many years. One Ragwort plant can produce more than 100,000 seeds which can parachute quite long distances.

Common poisonous weeds

Horsetails	Large quantities needed, remains toxic in hay. Not normally grazed
Bracken	Most poisonous to horses, cattle and pigs not sheep
Buttercup	Safe in hay, usually avoided by livestock except when hungry. Symptoms generally not severe
Hemlock, Fool's parsley	Hemlock particularly toxic
Sheep's sorrel	Large quantities needed
Ragwort	Very toxic, causes severe liver damage. Usually avoided except when stock are hungry

Buttercup and Ragwort can be controlled by phenoxyes or phenoxy mixtures
Limited control of Sheep's sorrel and Horsetails can be achieved with phenoxy mixtures.
Phenoxyes will not control Bracken, Fool's parsley or Hemlock.

Important note

Poisonous weeds often lose their repellent effect following spraying. Grazing animals must not be returned until the weed has died and is no longer palatable. This will often take longer than the statutory withdrawal period.

Weeds covered by the Injurious Weed Act 1959 and Ragwort Control Act 2003

The Acts enable control orders to be obtained in order to control the species of weeds shown below.



Six most common weeds in order of importance

(Source Nufarm Survey 150 grassland farmers)

Grassland under 1 year	Grassland 1-5 years	Permanent grassland
Docks	Docks	Thistles
Thistles	Thistles	Docks
Chickweed	Nettles	Nettles
Nettles	Chickweed	Chickweed
Redshank	Buttercup	Rushes
Buttercup	Ragwort	Ragwort



Phenoxies and phenoxy mixtures from Nufarm


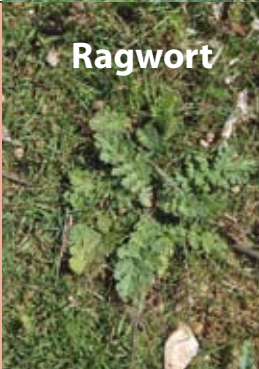


This is not a complete list of Nufarm phenoxy mixtures. Contact your agchem distributor for more information.

Nufarm product	Agritox	Depitox	Mircam Plus	High load Mircam	Lupo	Thrust
Actives	MCPA	2,4-D	mecoprop-p + MCPA + dicamba	mecoprop-p + dicamba	2,4-D + MCPA	2,4-D + dicamba
Earliest timing	Grass established for more than one year	Grass established for more than one year	Rotational grass from three leaf stage onwards	Rotational grass, start of tillering	Grass established more than one year	Grass established more than one year
Clover safety	Will damage clover. Clover may recover	Will damage clover. Clover may recover	Clover killed	Clover killed	Clover severely damaged	Clover killed
Can be applied by knapsack sprayer	No	Yes	Yes	Yes	No	Yes
Minimum period between spraying and return of livestock	14 days	14 days	14 days	14 days	14 days	14 days
LERAP	B	unclassified	unclassified	unclassified	unclassified	unclassified
Maximum no of treatments	2 per year	1 per year	1 per year	2 per year	1 per year	1 per year

Best phenoxy products and timings

Always read the label. Good control can be obtained at the best timing, however re-growth can occur and re-treatment may be needed in the following season. Phenoxies are commonly used in mixtures with a limited number of other products to optimise control. Contact your agchem advisor for more information.

Weed problem	Cultural control	Best phenoxy timing	Best phenoxy or phenoxy mixture
 <p>Docks</p>	<p>Farm hygiene. Avoid feeding hay or silage contaminated with Dock seed. Cutting reduces vigour and Docks more susceptible to herbicides when re-growth treated.</p>	<p>Controlled by phenoxyes at the seedling stage. For larger plants it is best to treat re-growth 2-3 weeks after cutting.</p>	<p>Best products High Load Mircam Mircam Plus</p> <p>Best actives mecoprop-p and dicamba mixtures</p>
 <p>Thistles</p>	<p>Cutting just prior to flowering will help keep this weed under control and prevents seedlings. A thick established ley can prevent germination of species such as Spear thistle.</p>	<p>Can be controlled at the seedling stage. Best controlled just prior to flowering. Also controlled well when re-growth has commenced following cutting.</p>	<p>Best products Agritox Depitox Lupo Mircam Plus</p> <p>Best actives MCPA or dicamba</p>
 <p>Nettles</p>	<p>Frequent topping will reduce vigour and also aid chemical control.</p>	<p>Can be controlled well at the seedling stage. In larger plants cut and treat re-growth when about 20-30cm high for best results. If Nettles haven't been cut spray when 30cm tall but some re-growth likely.</p>	<p>Best products Depitox Lupo</p> <p>Best active MCPA, mecoprop-p mixtures and 2,4 D will all control this weed</p>
 <p>Chickweed</p>	<p>Poaching and insect damaged areas provide opportunities for Chickweed to germinate. Maintain a fertile ley. Close grazing with sheep can reduce Chickweed levels. Harrowing in the autumn can help.</p>	<p>Treat when it occurs.</p>	<p>Best products High load Mircam Mircam Plus (Small plants only)</p> <p>Best actives Products containing mecoprop-p</p>

Cultural control	Best phenoxy timing	Best phenoxy or phenoxy mixture	Weed problem
<p>Cutting just prior to flowering prevents return of seed to the soil. Good fertile leys can reduce competitiveness of Buttercup.</p>	<p>Seedlings will be controlled. For larger plants the optimum timing is just prior to flowering in the spring. Bulbous buttercup best controlled in the autumn in warm, moist conditions.</p>	<p>Best products Agritox Depitox Mircam Plus</p> <p>Best actives MCPA , dicamba, 2,4-D</p>	 <p>Buttercup</p>
<p>Digging up plants with a fork can work with low infestation. Cutting will result in strong re-growth and is not effective. Pull plants up prior to flowering to prevent seed return. Maintain a fertile ley and grass competition will help eliminate this weed.</p>	<p>Best treated when at the rosette stage shown here.</p>	<p>Best products Depitox Lupo Thrust</p> <p>Best actives 2.4 D or dicamba</p>	 <p>Ragwort</p>
<p>A sign of poor drainage. Liming will reduce establishment. Cutting will reduce vigour and help with chemical control.</p>	<p>Best control 3-4 weeks after cutting.</p>	<p>Best products Agritox</p> <p>Best active MCPA</p>	 <p>Rushes</p>
<p>Generally more of a problem in newly sown leys but is an opportunist in gappy poached leys. Quick establishment of the new ley is important and can help to out-compete this weed.</p>	<p>Best controlled at the young plant stage.</p>	<p>Best products Mircam Mircam Plus</p> <p>Best actives Dicamba mixtures as above work best</p>	 <p>Redshank</p>

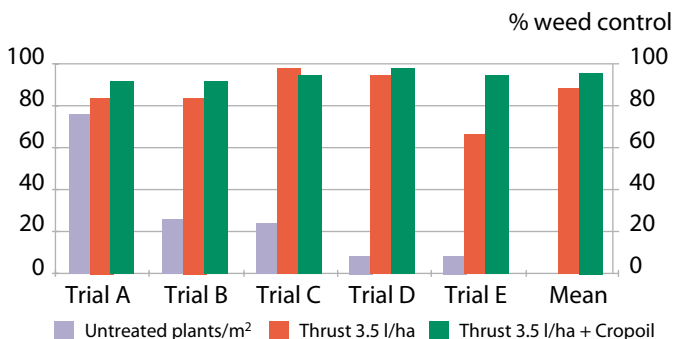
Use of Cropoil to improve weed control

When using adjuvants always read the label of the adjuvant. Most adjuvants only have a standard label and when used in combination with a grassland herbicide the dose rate of the grassland herbicide has to be halved.

Cropoil has been proved to be an effective adjuvant to combine with the phenoxies and there is no legal requirement to reduce the dose rate of the grassland herbicide.

Trials with Cropoil and Thrust have given a major leap in control of Ragwort to the point where the control of Ragwort has been upgraded on the label.

Ragwort control



Stewardship

Phenoxies are valuable tools in the war against grassland weeds. These products are soluble in water and although they do not persist long in the environment, they can easily get into water courses. Always consider how products can accidentally get into watercourses and take action to prevent this.

The most important things which can be done are listed below

Before spraying

Do not fill a sprayer on a hard surface where drainage can lead to contamination of watercourses. Use a drip tray or portable bund when filling the sprayer or fill in a banded area.

Triple rinse containers before storage and store undercover before disposal. Check sprayer for drips and leaks before travelling to the field.

When spraying

Keep a minimum of five metres away from watercourses when spraying.

Never spray when heavy rain is likely to cause surface run off within 48 hours of spraying.



Further information

For more information consult the voluntary initiative website
www.voluntaryinitiative.org.uk

Use plant protection products safely. Always read the label and product information before use. Details of application timings and rates are detailed in Nufarm labels and product literature; both of which can be accessed from our web site

www.nufarm.com/uk

24 hour Emergency number 01274 696603

Technical helpline 01274 694714 Monday-Friday 9 am - 5 pm.

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