



NUFARM GUIDE TO PHENOXY HERBICIDES



Nufarm Grow a better tomorrow.

Phenoxy herbicides 60 years of success

Sixty years ago a group of herbicides called phenoxyes were invented in Britain and the United States. Phenoxyes are now used as a general term for a group of herbicides that mimic the effect of natural plant 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. Phenoxyes 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. Phenoxyes are truly systemic and travel throughout the plant. They are selective in grass and cereals but an auxin subgroup called butyrics are also selective in many clovers and legumes.

Resistance management in cereals

Following the long-term use of phenoxyes it could be expected that resistance would be a big problem. This is not the case. There have been very few cases of resistance to phenoxyes because they mimic a natural plant hormone unlike Sulfonyl ureas which have a very different mode of action.



Twisting
action
associated
with
phenoxyes

No residue problems

Low risk of residues in manure with this chemistry.

Getting the most out of phenoxyes

- Apply when the weeds are growing and avoid overnight frosts if possible.
- Small seedling weeds have a small surface area. Big spray droplets will often bounce off not allowing enough active to get on the leaf. Subject to any buffer zone restrictions and avoiding drift, a finer nozzle is preferable.
- Big perennials with strong root systems need sufficient growth or re-growth to get enough product into the plant.
- For dense canopy choose appropriate nozzles, pressure and volume to ensure spray reaches the target. High water volumes i.e. 400 l/ha often result in less herbicide retention on the target.
- Phenoxyes work less well on weeds which are yellowing and under stress because less is translocated into the plant.
- Choose the best phenoxy product for the weed.
- If applying a product with a turf recommendation, allow some re-growth after cutting prior to spraying.
- These are valuable actives. Follow the stewardship guidelines at the end of the leaflet to prevent accidental release into watercourses. Don't risk losing these useful actives. With good stewardship you will be able to use these products for many years to come.

Controlling some of the most common perennial weeds

Always read the label and make sure you are using the most appropriate product. Timing for the control of perennial weeds can be important.

Adult plants latest timing



Thistles
Before flowering with adequate foliage present



Ragwort
Rosette stage



Daisy
Adequate leaf present



Docks
Before plant reaches 20 cm or after start of re-growth after cutting



Buttercup
Most effective when just coming into bud



Plantains
Any time but prior to flowering



Nettles
About 25 cm, prior to flowering



Dandelion
Adequate leaf present prior to flowering



Soft rush
About 20-25 cm prior to flowering. It is preferable to treat re-growth after cutting for maximum effect

Annual weeds

Follow the label for weed size and dose.

Weed		Duplosan KV	Easel/Agritox	Deptox	High Load Mircam	Mircam Plus / Turfmaster	Tropotox	Thrust	Lupo	Clovermax
Bindweed, black	<i>Fallopia convolvulus</i>	x	R	x	xxx	xxx	x	xx	x	
Bugloss, viper's	<i>Echium vulgare</i>	x	x	x					x	
Burdock, lesser	<i>Arctium minus</i>		x(x)	x(x)						
Buttercup, bulbous	<i>Ranunculous bulbosus</i>	x	xx	x(x)			x(x)	xx	xx	x(x)
Buttercup, common	<i>Ranunculus acris</i>	xx	xxx	xx			xx(x)	xx(x)	xxx	xx(x)
Buttercup, creeping	<i>Ranunculous repens</i>	xx	xxx	xxx	xx(x)	xx(x)	xx(x)	xx(x)	xxx	xx(x)
Buttercup, corn	<i>Ranunculaus arvensis</i>	x(x)	xx	xx	xx	xx			xx	
Carrot, wild	<i>Daucus carota</i>	x	x	x			R			
Campion, white	<i>Silene alba</i>	xx	R	R	xx					
Cat's ear	<i>Hypochaeris radicata</i>	xx	xx	xx					xx	
Chickweed, common	<i>Stellaria media</i>	xxx	R	x	xxx	xxx	R	x	x	R
Charlock	<i>Sinapis arvensis</i>	xxx	xxx	xxx	xxx	xxx	xx	xxx	xxx	xx
Cleavers	<i>Galium aparine</i>	xx(x)	R	R	xx(x)	xx	R	R	R	R
Clover	<i>Trifolium spp</i>	xxx	x(x)	x(x)	xxx	xx(x)	R	xxx	x(x)	R
Coltsfoot	<i>Tussilago farfara</i>	R	R	x			R		x(x)	
Cornflower	<i>Centaureia cyanus</i>	xx	xx(x)	xx(x)			xx		xx(x)	
Cranesbill, cut leaved	<i>Geranium dissectum</i>	x	x	x			x			
Cranesbill, dove's foot	<i>Geranium molle</i>	xx	x	x			x		x	
Cress, hoary	<i>Cardaria draba</i>		xx	xx						
Daisy, common	<i>Bellis perennis</i>		xx	xx(x)	xx(x)	xx(x)		xx(x)	xx	
Daisy, ox-eye	<i>Chrysanthemum laucanthemum</i>	R	R	R			R			
Dandelion	<i>Taraxacum officinale</i>	x	x	x(x)		xx		xx	xx	
Deadnettle, red	<i>Lamium purpurium</i>	R	R	R		R	R		R	
Dock, curled	<i>Rumex crispus</i>	xx	x(x)	x(x)	xx(x)	xx(x)	x(x)	xx(x)	xx	x(x)
Dock, broadleaved	<i>Rumex obtusifolius</i>	xx	x(x)	x(x)	xx(x)	xx(x)	x(x)	xx(x)	xx	x(x)
Field bean volunteers	<i>Vicia fabae</i>	xxx	x	x	xxx					
Fat hen	<i>Chenopodium album</i>	xxx	xxx	xxx	xxx	xxx	xx(x)		xxx	xxx
Forget me-not	<i>Myosotis arvensis</i>	R	x(x)	x(x)		xxx			xx	

XXX Susceptible XX Acceptable control can be achieved in ideal conditions, some regrowth may occur. Seedlings usually controlled
X Some suppression of weeds R Resistant The list of susceptibilities is for guidance only based on a whole range of UK sources and does not constitute a recommendation. Different species of weed are controlled at different optimum size and timings.

Weed		Duplosan KV	Easel/Agritox	Depitox	High Load Mircam	Mircam Plus / Turfmaster	Tropotox	Thrust	Lupo	Clovermax
Fumitory, common	<i>Fumaria officinalis</i>	x	xx	x	xxx	xxx	x(x)		x	
Gallant soldier	<i>Galinsoga parviflora</i>	xx	xx	xx(x)						
Gromwell, field	<i>Lithospermum arvense</i>		xx	x						
Groundsel	<i>Senecio vulgaris</i>	x	x	x	xxx	xxx			x	
Hemlock	<i>Conium maculatum</i>		x	x		x	R	x	x	
Hempnettle, common	<i>Galepsis tetrahit</i>	x	xx	R	x	xx	xx		xx	
Horsetail, field	<i>Equisetum arvensis</i>	x	x(x)	x(x)			x(x)	x(x)	x(x)	x
Knawel, annual	<i>Scleranthus annus</i>		x(x)	x(x)						
Knotgrass	<i>Polygonum aviculare</i>	x	R	x	xxx	xxx	x	x	x	
Marigold, corn	<i>Chrysanthemum segetum</i>	R	(x)	R		R	R		R	
Mayweed, scented	<i>Matricaria recutita</i>	R	R	R	xx	xx			R	
Mayweed, scentless	<i>Triplerospermum inodorum</i>	x	R	R	x	xx			R	
Mouse ear, common	<i>Cerastium fontanum</i>	xxx	x	x			R		xx	
Mustard, black	<i>Brasica nigra</i>	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	
Mustard, treacle	<i>Erysimum cheiranthoides</i>	xxx	xxx	xxx	xxx	xxx	xx	xxx	xxx	xx
Mustard, white	<i>Siapis alba</i>	xxx	xxx	xxx			x		xxx	xx
Nettle, common	<i>Urtica dioica</i>	xx	xx	xx	xx(x)			xx	xx	
Nettle, small	<i>Urtica urens</i>	xx	xx	xx			xx(x)		xx	xx
Nightshade, black	<i>Solanum nigrum</i>	x(x)	x	x						
Oilseed rape	<i>Brassica napus</i>	xxx	xxx	xxx	xxx	xxx	xx(x)		xxx	xx
Orache, common	<i>Atriplex patula</i>	xx	xx	xx		xxx	x		xx	
Pansy, field	<i>Viola arvensis</i>	R	x	R		R	R		x	
Parsley, cow	<i>Anthriscus arvensis</i>	x	R	x(x)			R			
Parsley, fool's	<i>Aethusa cynapium</i>	R	x	R			R		x	
Parsley-piert	<i>Apanes arvensis</i>	R	R	R			R		R	
Pennycress, field	<i>Thlapsi arvensis</i>	xxx	xxx	xxx	xxx	xxx	xxx		xxx	xx
Persicaria, pale	<i>Polygonum lapathifolium</i>	x	x	x		xxx			x	

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Pimpernel, scarlet	<i>Anagalis arvensis</i>	X	X	X		XX	X		X	
Pineappleweed	<i>Matricaria discoidea</i>	R	R	R	XX	XX	R		R	
Plantains	<i>Plantago spp</i>	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Poppy, common	<i>Papaver rhoeas</i>	X	XX	XX	X	XXX	XX		XX	XX
Radish, wild (Runch)	<i>Raphanus raphanistrum</i>	XXX	XX	XX	XXX	XXX			XX	
Ragwort, common	<i>Senecio jacobea</i>	X	x(x)	XX		XX		xx(x)	xx(x)	
Redshank	<i>Polygonum persicaria</i>	X	X	X	XXX	XXX			X	x(x)
Rush, hard	<i>Juncus inflexus</i>	R	X	X					X	
Rush, jointed	<i>Juncus articulatus</i>	R	R	R					R	
Rush, soft	<i>Juncus effusus</i>	X	XX	x(x)					xx(x)	
Self-heal	<i>Prunella vulgaris</i>		XX	XX		XX		XX	XX	
Shepherd's needle	<i>Scandix pecten-veneris</i>		X	X					X	
Shepherd's purse	<i>Capsella bursa-pastoris</i>	XXX	XX	XX	XXX	XXX	XX		XX	XX
Sowthistle, perennial	<i>Sonchus arvensis</i>	x(x)	X	X			X		X	X
Sowthistle, prickly	<i>Sonchus asper</i>	x(x)	X	x(x)	XX	XX	XX		x(x)	
Sowthistle, smooth	<i>Sonchus oleraceus</i>	X	XX	x(x)	X		XX			
Speedwell, common field	<i>Veronica persica</i>	X	R	X	XX	XX			X	
Speedwell, green field	<i>Veronica agrestis</i>	R	R	R					R	
Speedwell, ivy-leaved	<i>Veronica hederifolia</i>	X	R	X					R	
Spurge, sun	<i>Spergula arvensis</i>	XX	XX	XX			x(x)		XX	
Spurrey, corn	<i>Spergula arvensis</i>	R	R	R					R	
Stork's bill, common	<i>Erodium cicutarium</i>	x(x)	XX	x(x)						
Tares (vetches)	<i>Vicia spp</i>	X	X	XX					XX	
Thistle, creeping	<i>Cirsium arvense</i>	x(x)	xx(x)	xx(x)	xx(x)	xx(x)	XX	XXX	xx(x)	x(x)
Thistle, spear	<i>Cirsium vulgare</i>	XX	xx(x)	xx(x)	xx(x)		xx(x)	XXX	xx(x)	x(x)
Turnip, wild	<i>Brassica rapa campestris</i>	XX		X			X			
Yarrow	<i>Achelia millefolium</i>	XX	X	XX			R		x(x)	

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Product	Actives	Winter wheat	Spring wheat	Winter barley	Spring barley	Winter oats	Spring oats	Winter rye	Spring rye	Triticale	Durum wheat
Duplosan KV	600g/l mecoprop-P	✓	✓	✓	✓	✓	✓				
Compitox Plus	600g/l mecoprop-P	✓	✓	✓	✓	✓	✓				
Easel	750g/l MCPA	✓	✓	✓	✓	✓	✓	✓	✓		
Agritox	500g/l MCPA	✓	✓	✓	✓	✓	✓	✓	✓		
Depitox	500g/l 2,4-D	✓	✓	✓	✓	✓		✓	✓		
High Load Mircam	600g/l mecoprop-P + 80g/l dicamba	✓	✓	✓	✓	✓	✓				
Mircam Plus	43.3g/l mecoprop-P + 245g/l MCPA + 19.5g/l dicamba	✓	✓	✓	✓	✓	✓				
Turfmaster	43.3g/l mecoprop-P + 245g/l MCPA + 19.5g/l dicamba										
Tropotox	400g/l MCPB										
Thrust	344 g/l 2,4-D + 120g/l dicamba										
Lupo	360g/l MCPA + 315g/l 2,4-D	✓	✓	✓	✓	✓					
Clovermax	240g/l 2,4-DB + 40g/l MCPA	✓	✓	✓	✓	✓	✓				

Product	Actives	Grassland - established	Grassland -rotational	Grass seed crop	Amenity grassland	Turf	Apples	Peas	EAMUs
Duplosan KV	600g/l mecoprop-P			✓	✓	✓			8
Compitox Plus	600g/l mecoprop-P			✓	✓	✓			6
Easel	750g/l MCPA	✓		✓					0
Agritox	500g/l MCPA	✓		✓					0
Depitox	500g/l 2,4-D	✓			✓	✓	✓		5
High Load Mircam	600g/l mecoprop-P + 80g/l dicamba								1
Mircam Plus	43.3g/l mecoprop-P + 245g/l MCPA + 19.5g/l dicamba			✓					0
Turfmaster	43.3g/l mecoprop-P + 245g/l MCPA + 19.5g/l dicamba				✓	✓			0
Tropotox	400g/l MCPB							✓	0
Thrust	344 g/l 2,4-D + 120g/l dicamba	✓			✓				0
Lupo	360g/l MCPA + 315g/l 2,4-D	✓	✓						0
Clovermax	240g/l 2,4-DB + 40g/l MCPA		✓						0

Keep these valuable products out of water

Avoid getting phenoxies into water. Remember one thimble full of pesticide would take a stretch of river 20 cm deep and 5 metres wide over the legal limit for 20 kilometres.

Good practice

- Fill in designated bunded pesticide handling area.
Never fill at a field entrance.
- Check for drips and leaks before leaving the handling area.
- Never fill near a water course or where there is drainage direct into drains or watercourses.
- Clean mud from tyres and the outside of sprayer before leaving the field. Mud carries pesticide.
- Avoid splashing concentrate when filling. Clean up spills immediately.
- Obey any aquatic buffer zone restrictions.
- Fill using an induction bowl where possible.
- Clean out sprayer in the crop or target area.
- When spraying ensure there is no flowing or surface water anywhere. This is especially important when spraying soft rush.
- Store empty containers upright after use.

Further information

Details of application timings and rates are detailed in Nufarm labels and product literature; both of which can be accessed from our web site at www.nufarm.com/uk. Alternatively ring:

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

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Use plant protection products safely. Always read the label and product information before use. For further product information including warning phrases and symbols refer to www.nufarm.com/uk

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