

European Commission



**Renewal Assessment Report prepared according to the Commission
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MECOPROP-P

Volume 3 – B.3 (AS)

Rapporteur Member State : United Kingdom
Co-Rapporteur Member State : Ireland

Version History

When	What
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B.3. DATA ON APPLICATION

B.3.1. USE OF THE ACTIVE SUBSTANCE

Mecoprop-P is intended for use on spring and winter cereals. Application is via tractor mounted boom sprayer at a maximum rate of 1.2 kg a.s./ha. Dilution rates of 200-400 L water/ha are used. A single application per crop/year is recommended.

The representative uses supported at renewal are at a maximum dose which is less than that currently authorized in cereals in most Member States i.e. 1.2 kg a.s/ha compared to the 1.5-2.4 kg a.s/ha currently authorized (ref: Document D2 final 17 July 2014).

B.3.2. FUNCTION

Mecoprop-P is a selective, systemic herbicide that is readily absorbed through the leaves and root of the plant and translocated acro- and basipetally.

B.3.3. EFFECTS ON HARMFUL ORGANISMS

Control of broad-leaved weeds.

Mecoprop-P, which is a hormone type herbicide, is absorbed mainly by the green parts of the plants, but with some absorption through the roots and is rapidly translocated within herbaceous plants.

It has been used in broad leaved weed control for many years with product registration in many EU Member States.

B.3.4. FIELD OF USE ENVISAGED

Mecoprop-P containing products are used in agriculture as post-emergence foliar sprays in cereals

B.3.5. HARMFUL ORGANISMS CONTROLLED AND CROPS OR PRODUCTS PROTECTED OR TREATED

A range of broad leaved weeds in winter and spring cereals (wheat (including durum and spelt), barley, rye, oats and triticale).

Harmful organisms controlled

Latin name	Common name	Bayer Code	Control
<i>Atriplex patula</i>	Common Orache	ATXPA	S
<i>Borago officinalis</i>	Borage	BOROF	MS
<i>Brassica napus</i>	Volunteer oilseed rape	BRSNN	S
<i>Brassica nigra</i>	Black Mustard	BRSNI	S
<i>Brassica rapa</i>	Wild Turnip	BRSRA	MS
<i>Capsella bursa-pastoris</i>	Shepherds Purse	CAPBP	S
<i>Cardaria draba</i>	Hoary Cress	CADDR	S
<i>Cardamine hirsuta</i>	Hairy Bitter cress	CARHI	S
<i>Cerastium vulgatum</i>	Common Mouse-ear	CERVU	S
<i>Chenopodium album</i>	Fat Hen	CHEAL	S

Latin name	Common name	Bayer Code	Control
<i>Chenopodium ficifolium</i>	Fig-leaved Goosefoot	CHEFI	S
<i>Chenopodium polyspermum</i>	Allseed	CHEPO	S
<i>Cirsium arvense</i>	Creeping Thistle	CIRAR	S
<i>Convolvulus arvensis</i>	Field Bindweed	CONAR	S
<i>Erysimum repandum</i>	Treacle Mustard	ERYRE	S
<i>Fumaria officinalis</i>	Common Fumitory	FUMOF	S
<i>Galium aparinel</i>	Cleavers	GALAP	S
<i>Geranium molle</i>	Dove's-Foot Crane's Bill	GERMO	MS
<i>Lamium amplexicaule</i>	Henbit Nettle	LAMAM	S
<i>Lamium purpureum</i>	Red Deadnettle	LAMPU	MS
<i>Plantago lanceolata</i>	Ribwort Plantain	PLALA	S
<i>Plantago major</i>	Greater Plantain	PLAMA	S
<i>Ranunculus arvensis</i>	Corn Buttercup	RANAR	MS
<i>Raphanus raphanistrum</i>	Wild Radish	RAPRA	S
<i>Sinapis arvensis</i>	Charlock	SINAR	S
<i>Sonchus asper</i>	Prickly Sowthistle	SONAS	MS
<i>Sonchus oleraceus</i>	Smooth Sowthistle	SONOL	MS
<i>Spergula arvensis</i>	Corn Spurrey	SPRAR	S
<i>Stellaria media</i>	Common Chickweed	STEME	S
<i>Thlaspi arvense</i>	Field Penny-cress	THLAR	S
<i>Urtica dioica</i>	Common Nettle	URTDI	S
<i>Urtica urens</i>	Small Nettle	URTUR	S
<i>Veronica hederifolia</i>	Ivy-leaved Speedwell	VERHE	MS
<i>Veronica officinalis</i>	Common Speedwell	VEROF	MS
<i>Veronica persica</i>	Field Speedwell	VERPE	MS
<i>Vicia faba</i>	Volunteer Beans	VICFX	S
<i>Vicia spp.</i>	Vetch species	VICSS	S
S: Susceptible Complete or almost complete kill			
MS: Moderately susceptible Suppression with or without kill			

This list of weeds controlled differs slightly from the list included in the EU DAR used to support the first approval of mecoprop-P. It is likely that this reflects the slightly reduced dose rate – but this will need to be checked by Member States at product renewal. There may, for example be effectiveness data at a dose of 1.2 kg/ha mecoprop-P submitted as part of the re-registration process under EU Directive 91/414 which indicate acceptable levels of control of certain weed species at 1.2 kg/ha. In addition this dose may give useful control as part of a co-formulation.

Overall the RMS view is that there is some evidence that this dose would be ‘sufficiently effective.’

B.3.6. MODE OF ACTION

The phenoxypropionic acid mecoprop-P belongs to the group of auxin-type herbicides which display activity of phytohormonal auxin in bioassays and in treated sensitive plants. The compound is directly toxic to susceptible plants without metabolic activation. It is translocated in the plant basi- and acropetally.

The mode of action has been established as a mimic of auxin, which is a natural plant growth substance (indol-3-yl acetic acid). Mecoprop-P induces a series of morphological and physiological effects which include decreases in root and shoot growth, epinasty of stems and leaves, severe chloroplast damage leading to leaf chlorosis, altered stomatal function, reduced water consumption, inhibition of photosynthetic CO₂ assimilation, changes in vascular tissues, disruption of membrane integrity, tissue collapse and decay.

Mecoprop-P possesses a high degree of metabolic stability in the plant, unlike endogenous auxin. Physiological and molecular investigations have proposed that effects on plasmalemma ATPases and proton gradient development influencing cell wall plasticity, induction of ethylene biosynthesis, and an aberrant nucleic acid metabolism induced by hormonal imbalance in treated tissues are the primary reasons for the phytotoxic action (Kirkwood 1983) (The relationship of metabolism studies to the modes of action of herbicides, 1983).

B.3.7. INFORMATION ON THE OCCURRENCE OR POSSIBLE OF THE DEVELOPMENT OF RESISTANCE AND APPROPRIATE MANAGEMENT STRATEGIES

Few reports on resistance of weeds to auxin analogue herbicides exist. The relatively low appearance of resistance is thought to be caused by the multifaceted mode of action, as they do not affect a single target site and that they do not have long term residual activity.

If continued use of mecoprop-P leads to development of resistant weeds, the guidelines for the management of herbicide resistant weeds published by the Weed Resistance Action Group, 2003 “Managing and preventing herbicide resistance in weeds” are recommended:

<http://www.pesticides.gov.uk/guidance/industries/pesticides/advisory-groups/Resistance-Action-Groups/wrag/herbicide-resistance-management-product-use>

Updated guidance is available in managing weeds in arable rotations 2010:

http://www.pesticides.gov.uk/Resources/CRD/Migrated-Resources/Documents/H/HGCA_Arable_Weed_Guide_2010.pdf

B.3.8. REFERENCES RELIED ON

It is considered that the literature searches (reported by the applicant under MCA section 9 of the renewal dossier) are acceptable in terms of databases searched and the search criteria applied. The search did not reveal any references of relevance to this section.

No data provided for renewal.