CLAYTON PARADIGM

MAPP 12001

contains 120 g/litre paraquat and 80 g/litre diquat in a soluble concentrate

A non-selective contact herbicide for use only by professional farmers and growers.

TOXIC

Toxic: danger of serious damage to health by prolonged exposure if swallowed

HARMFUL IN CONTACT WITH SKIN AND IF SWALLOWED

RISK OF SERIOUS DAMAGE TO EYES

IRRITATING TO RESPIRATORY SYSTEM AND SKIN

DANGEROUS FOR THE ENVIRONMENT

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Paraquat is subject to the provisions of the Poisons Act 1972*, the Poisons List Order 1982* and the Poisons Rules 1982*. It is scheduled as a Part II Poison.

* Available from The Stationery Office.

The Control of Substances Hazardous to Health (COSHH) Regulations may apply to the use of this product at work.

COMPLIANCE WITH THE FOLLOWING CONDITIONS OF USE AND ALL SAFETY PRECAUTIONS MARKED ❖ IS A LEGAL REQUIREMENT

FOR USE ONLY AS AN AGRICULTURAL/HORTICULTURAL/FORESTRY HERBICIDE

Crop or situation	Maximum individual dose	Latest time of application
All edible crops	5.5 l/ha	pre-emergence
Potato	5.5 l/ha	-
Hops	5.5 l/ha	-
Around any edible or non-edible crop	5.5 l/ha	-
Before planting any edible or non-edible crop	5.5 l/ha	-
Stubbles of any edible or non-edible crop	5.5 l/ha	-
Ornamental plant production (propagating material)	5.5 l/ha	-
Forest nurseries	5.5 l/ha	-
Forest	5.5 l/ha	-
Green cover on land temporarily removed from production	5.5 l/ha	-
Natural surfaces not intended to bear vegetation	5.5 l/ha	-
Permanent grassland – destruction	8.5 l/ha	-
Rotational grassland – destruction	8.5 l/ha	-

READ ALL OTHER SAFETY PRECAUTIONS AND DIRECTIONS FOR USE BEFORE USE

SAFETY PRECAUTIONS

Operator protection

- Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:
- WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.
- WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES, RUBBER BOOTS AND FACE PROTECTION (FACESHIELD) during application and when handling contaminated surfaces.
- However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

WHEN USING, DO NOT EAT, DRINK OR SMOKE.
WASH SPLASHES from skin or eyes immediately.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
DO NOT BREATHE SPRAY.
TAKE OFF IMMEDIATELY all contaminated clothing.
WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.
WASH HANDS AND EXPOSED SKIN before meals and after work.
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL seek medical advice immediately (show the label where possible).

Environmental protection

DO NOT CONTAMINATE SURFACE WATERS OR DITCHES with chemical or used container.

- HARMFUL TO HARES. Spray stubbles early in the day.
- HARMFUL TO LIVESTOCK. Keep all livestock out of treated areas for at least 24 hours following treatment.

Storage and disposal

KEEP OUT OF REACH OF CHILDREN.
KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.
KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place under lock and key.

- DO NOT RE-USE CONTAINER for any purpose.

WASH OUT CONTAINER THOROUGHLY, empty washings into spray tank, and dispose of safely.

FIRST AID

Wash concentrate or spray from skin immediately. Wash eye splashes with water for 10-15 minutes and seek medical attention. If swallowed, induce vomiting if not already occurring and take patient to hospital immediately.

GUIDE TO DOCTOR

Give stomach washout and test urine and gastric aspirate for paraquat. Purge gastro-intestinal tract immediately with a 15% suspension of Fuller's Earth and 200 ml of 20% mannitol in water. Contact nearest Poisons Information Centre for advice on further treatment.

To avoid risks to man and the environment, comply with the instructions for use.
Safety data sheet available for professional user on request.
This product is approved under the Control of Pesticides Regulations 1986.

Clayton Plant Protection (UK) Ltd.
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Contents: **5 litres**

PROTECT FROM FROST
SHAKE THOROUGHLY BEFORE USE
Batch No:

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

MODE OF ACTION

Clayton Paradigm, containing paraquat and diquat, is a non-selective contact herbicide that is rapidly absorbed by plant foliage resulting in the kill of the green tissue within a day or so. Paraquat and diquat are not systemic herbicides. Weeds having underground stems or rhizomes, such as common couch, can thus regrow from the rhizomes. Both paraquat and diquat are bound and inactivated after contact with soil; there is no residual activity once binding has taken place.

WEATHER AND GROWING CONDITIONS

Green plant tissue may be desiccated or destroyed at any time with Clayton Paradigm. Application during bright weather and under low humidity gives the fastest kill of grasses; conversely the low light intensity of winter results in a slower but usually more positive kill of the tougher grasses. Whilst Clayton Paradigm should not be applied during rain, the spray becomes rainfast 15 minutes after application to dry foliage.

WAITING PERIODS

Cultivations after application: wait at least 4 hours preferably 24 hours before cultivating. Full desiccation usually takes 7-10 days depending upon the prevailing conditions.

Sowing after application: wait at least 4 hours preferably 24 hours before sowing. Minimal cultivation and direct drilling systems usually require 7-10 days to allow more thorough desiccation of the vegetation.

Application after sowing: on soil categories other than ***Sands*** or ***Peats*** (Soil Texture 85 System) spray not later than 24 hours before anticipated emergence. On ***Sands*** and ***Peats*** spray not later than 3 days before anticipated emergence.

Transplanting after application: on soil categories other than ***Sands*** or ***Peats*** (Soil Texture 85 System) transplant after not less than 4 hours have elapsed since spraying. On ***Sands*** and ***Peats*** transplant not earlier than 3 days after application.

SUCCEEDING CROPS

Any crop may follow application of Clayton Paradigm provided that the recommended intervals and procedures specified in this label are followed. However it should be noted that root exudates and decomposition products of organic debris can impair crop germination and growth, especially when direct drilling is practised, irrespective of the application of this product. Thorough dispersal or ploughing down of all organic debris is recommended to avoid this situation arising.

WEEDS IN STUBBLE OR CULTIVATED LAND BEFORE PLANTING
For the control of annual broad-leaved weeds, annual grasses, creeping bent, volunteer cereals and wild-oats.

Procedure		Rate of application
Spray not less than 4 hours before ploughing, cultivating or drilling. Volunteer cereals, wild-oat and barren brome should have at least 2 leaves to be effectively killed. Creeping bent must be sprayed before end-October whilst green leaf sheaths are still retained.	Weeds up to 3 true leaves few in number:	2 l/ha (1½ pint/ac)
	Many or larger weeds:	3 l/ha (2 pint/ac)
	For creeping bent:	4 l/ha (3 pint/ac)
	Note: when applying at 2 l/ha or less add authorised wetting agent ADJ 0421 at 500 ml/1000 litres (8 fl.oz/100 gal) diluted spray.	

SWARD DESTRUCTION PRECEDING ARABLE CROPPING
For the desiccation or kill of old leys and permanent pasture.

Procedure		Rate of application
Conventional cultivation systems Spray not less than 24 hours before ploughing. Creeping bent must be sprayed before end-October whilst green leaf sheaths are still retained.	General use/light vegetation:	3 l/ha (2 pint/ac)
	For denser vegetation and creeping bent:	4 l/ha (3 pint/ac)
Minimal cultivation systems Manage the old grassland by cutting or grazing so that there is 7-10 cm (3-4") of fresh growth at the estimated date of spraying. When fully desiccated 7-10 days after spraying, cultivate e.g. with a rotary cultivator, to break and mix the surface mat.	Annual weeds and grasses growing after earlier cultivations:	3 l/ha (2 pint/ac)
	Undisturbed grassland:	4 l/ha (3 pint/ac)
Direct drilling systems Manage the old grassland by cutting or grazing so that there is 7-10 cm (3-4") of fresh growth at the estimated date of spraying. The old sward normally becomes fully desiccated 7-10 days after spraying to allow future cropping.	General use/light vegetation:	5.5 l/ha (4 pint/ac)
	For denser vegetation and harder-to-kill grasses e.g. cock's-foot and fine-leaved fescue:	8.5 l/ha (6 pint/ac) If required apply 5.5 l/ha (4 pint/ac) followed 7-10 days later by 3 l/ha (2 pint/ac).

SWARD DESTRUCTION PRECEDING RE-SOWING TO GRASS
For the desiccation or kill of old leys and permanent pasture.

Procedure		Rate of application
Conventional cultivation systems Spray not less than 24 hours before ploughing. Creeping bent must be sprayed before end-October whilst green leaf sheaths are still retained.	General use/light vegetation:	3 l/ha (2 pint/ac)
	For denser vegetation and creeping bent:	4 l/ha (3 pint/ac)
Minimal cultivation systems Manage the old grassland by cutting or grazing so that there is 7-10 cm (3-4") of fresh growth at the estimated date of spraying. When fully desiccated 7-10 days after spraying, cultivate e.g. with a rotary cultivator, to break and mix the surface mat.	General use/light vegetation:	5.5 l/ha (4 pint/ac)
	For denser vegetation and harder-to-kill grasses e.g. cock's-foot and fine-leaved fescue:	8.5 l/ha (6 pint/ac)

WEED CONTROL IN ROW CROPS

For the control of annual weeds before sowing or before crop emergence of vegetable crops, kale, swedes, turnips and sugar beet.

Procedure		Rate of application
Make the seedbed as per usual practice then allow 2-4 weeks, according to conditions, for weeds to grow. The weed covered seedbed may then be sprayed 1-3 days (see note) before sowing or planting OR the weed covered seed bed may be drilled and then sprayed 1-3 days (see note) before the crop emerges. Note: on soils classed as ***Sands*** or ***Peats*** (Soil Texture 85 System), spray at least 3 days before drilling or planting or crop emergence.	Weeds up to 3 true leaves few in number: Many or larger weeds:	3 l/ha (2 pint/ac) 5.5 l/ha (4 pint/ac)

For the control of annual weeds in early or maincrop potatoes prior to crop emergence.

Procedure		Rate of application
The final cultivations should be conducted to leave firm, rounded ridges. Spray ware crops before 10 % of the planted tubers have emerged; spray seed crops and crops from small 'seed' wholly pre-emergence. Do not treat crops of dubious health or under stress from any cause, especially warm dry weather.	Weeds up to 3 true leaves few in number: Many or larger weeds:	3 l/ha (2 pint/ac) 5.5 l/ha (4 pint/ac)

For the control of annual and perennial weeds in established row crops e.g. fruit bushes and forestry.

Procedure		Rate of application
Treat before weeds exceed 7.5cm (3") height and repeat as required. Spray inter-row or around plants using spray guards to prevent any contact of the spray with the crop.	Weeds up to 3 true leaves few in number: Many or larger weeds:	3 l/ha (2 pint/ac) 5.5 l/ha (4 pint/ac)

HOPS

Removal of basal regrowth and leaf stripping.

Procedure	Dose
Spray the leaves on the lower 90cm (36") of stem in July or after the bines have climbed to the top wire. Point the spray nozzles downwards. Do not treat crops under stress, especially drought stress. Do not treat when there is heavy dew or moisture on the leaves as crop damage might result.	5.5 l/ha in 1500 l/ha water (4 pint/ac in 135 gal/ac)

WEED CONTROL IN NON-CROP SITUATIONS

(land temporarily removed from production and non-cropped field margins)

Procedure		Rate of application
Treat before weeds exceed 15cm (6") height whilst actively growing and repeat as required. Ensure thorough coverage of the weeds with spray.	Weeds up to 3 true leaves few in number: Many or larger weeds: Single rate for knapsack sprayers:	3 l/ha (2 pint/ac) 5.5 l/ha (4 pint/ac) 0.5 litre in 20 litres of water per 1000m^2 (16 fl.oz in 4 gallons water per 1200 sq.yards)

APPLICATION
Apply via conventional hydraulic sprayers only; do not apply via rotary atomisers, mist blower or other equipment type. Avoid spray drift. Spray contacting a crop or any green tissue can be injurious. If application is to be made around or near glasshouses, close all vents and doors for the duration of spraying.
Tractor mounted or drawn sprayers: apply the recommended quantity of Clayton Paradigm in 200-500 l/ha (20-50 gal/ac) of water, except hops – see table. Use at least 300 l/ha (30 gal/ac) water if the weeds have more than 3 true leaves or weed cover is dense. Use 500 l/ha (50 gal/ac) water when desiccating grassland. Apply as a MEDIUM spray (BCPC) not exceeding 3 bar (45 psi).
Knapsack sprayers: in any situation do not mix more than 1 volume of Clayton Paradigm in 40 volumes of water. A typical recommendation at this concentration is 0.5 litre in 20 litres of water per 1000m^2 (16 fl.oz in 4 gallons water per 1200 sq.yards). Use a deflector type nozzle operating at 0.5-1 bar (7-15 psi).

MIXING
Use a clean water source; water with dissolved salts or suspended mineral or organic matter can inhibit full efficacy. Almost fill the spray tank with clean water leaving sufficient space to add the product. With the water in the spray tank under agitation, add the measured amount of Clayton Paradigm. Add authorised adjuvant ADJ 0421 if this is to be included in the mix - see note. Top up the spray tank with clean water. Agitate thoroughly before use and keep under agitation until the tank is empty. Do not allow mixed spray to stand in the spray tank for any prolonged period. Spray out immediately after mixing.
Note: when applying Clayton Paradigm at 2 l/ha (1½ pint/ac) or less add authorised wetting agent ADJ 0421 at 500 ml/1000 litres (8 fl.oz/100 gal) diluted spray.

EXCLUSIONS
Weeds on artificial growing media must not be treated.
Neither straw nor any other crop residue should be used as a growing medium following treatment.

NOTES ON WEED CONTROL

All weeds	spray whilst young, showing green leaf and before 15 cm (6") high
Fumitory, common Knotgrass	delay spraying until the first true leaf is formed
Cleavers	moderately resistant; spray when 2 whorls of true leaves are present
Cleavers Knotgrass Nettle, annual	are more resistant when the spray is applied as a very coarse spray e.g. deflector nozzles
Couch, common Deep-rooted weeds	not translocated to the roots/rhizomes; follow initial spray with cultivations to encourage regrowth; spray the regrowth; repeat the cycle as necessary
Cock's-foot Fine-leaved fescues	ideally spray in autumn and leave over winter
Oilseed rape volunteers	spray at the cotyledon to 2 true leaves stage

Strains of some annual grasses, e.g. black-grass, wild-oat and Italian rye-grass, have developed resistance to herbicides which may lead to poor control. A strategy for preventing and managing such resistance should be adopted. Guidelines have been produced by the Weed Resistance Action Group and copies are available from the HGCA, CPA, your distributor, crop advisor or product manufacturer.

AFTER USE
Immediately after use, thoroughly clean the sprayer with water and a cleaning agent recommended for the cleaning of spraying machines. Any plant or crop can be damaged by traces of paraquat left in the sprayer.