

## **PRECAUTIONS**

WEAR SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACE SHIELD) when handling concentrate.

WASH CONCENTRATE from skin immediately.

IN CASE OF CONTACT WITH EYES RINSE IMMEDIATELY with plenty of water and seek medical advice.

WASH HANDS AND EXPOSED SKIN before meals and after work.

AVOID ALL CONTACT BY MOUTH.

WHEN USING DO NOT EAT DRINK OR SMOKE.

DO NOT BREATHE SPRAY.

DANGEROUS TO FISH OR OTHER AQUATIC LIFE. Do not contaminate surface waters or ditches with chemical or used container.

KEEP AWAY FROM FOOD DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF REACH OF CHILDREN.

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

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

DO NOT RE-USE CONTAINER for any purpose.

MODE OF ACTION CLASSIFICATION - Weed Resistance Management and Weed Resistance Avoidance



Pendimethalin, the active ingredient of PLINTH, is a Group K<sub>1</sub> herbicide (HRAC, 1996 Classification).

Pendimethalin is a dinitroaniline herbicide and works by inhibiting microtubule assembly during cell division.

PLINTH is an emulsifiable concentrate formulation containing 330 g/l of the active ingredient pendimethalin. PLINTH is recommended for the control of annual grass and broad-leaved weeds pre- and post-crop emergence of winter cereals, pre-crop emergence of spring barley, combining (dry harvest) peas, potatoes, carrots, parsnips, parsley, leeks and autumn- and spring- sown onions, and pre-transplanting of autumn- and spring-onions and of vegetable brassica crops (broccoli, Brussels sprouts, calabrese, cauliflower and cabbage).

#### PACK SIZE

This bottle contains 5 litres which will treat at

6 litres/hectare	0.83 hectares
4 litres/hectare	1.25 hectares
3 litres/hectare	1.67 hectares

INDEX OF USES - see specified page for full information (including further restrictions).

CROP **	CROP GROWTH STAGE (Pre- or Post-emergence)	WEED GROWTH STAGE (Pre- or Post-emergence)	TREATMENT (+ = tank-mix)	Page No.
Winter Wheat (inc. Durum Wheat) and Winter Barley	Pre- (and Post-)	Pre-	PLINTH	12
	Post-	Pre-	PLINTH + IPU* (isoproturon)	15
	Pre- and Post-	Pre- and Post-	PLINTH + CTU* (chlorotoluron)	18
	Post-	Pre- and Post-	PLINTH + imazamethabenz-methyl*	18
Winter Rye and Triticale	Pre- (and Post-)	Pre-	PLINTH	12
	Pre-	Pre- and Post-	PLINTH + IPU* (isoproturon)	15
Spring Barley (Spring sown)	Pre-	Pre-	PLINTH	12
Combining (Dry Harvest) Peas	Pre-	Pre-	PLINTH	19
	Pre-	Pre-	PLINTH + cyanazine*	22
Potatoes	Pre-	Pre-	PLINTH + cyanazine*	24
	Pre-	Pre- (and Post-)	PLINTH in tank-mix or sequence with metribuzin*	27
Carrots, Parsley, Parsnips (drilled)	Pre-	Pre-	PLINTH	29
	Pre-	Pre-	PLINTH in tank-mix or sequence with linuron*	
Onions (spring and autumn drilled) and Leeks (drilled)	Pre-	Pre-	PLINTH + propachlor*	31
Transplanted Brassicas (Broccoli, Brussels Sprouts, Cabbage, Calabrese, Cauliflower),	Pre-transplanting	Pre-	PLINTH (followed by propachlor * post-planting)	30 and 31
All crops	Pre- only	Established/ transplanted	Either paraquat* or similar contact or translocated herbicide followed by PLINTH or a PLINTH and paraquat* tank mixture	7

\*Listed approved formulations

\*\* Do not under-sow treated crops

## INSTRUCTIONS FOR USE - ALL CROPS

For full information on the use of PLINTH, please read this section of the label and the directions given in the individual crop sections indexed in the table on page 5. Weed control and crop selectivity will be as expected if all label recommendations are followed.

Strains of some annual grasses (e.g. black-grass, wild-oats, 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, BAA, your distributor, crop advisor or product manufacturer.

PLINTH must NOT be soil incorporated.

### SOIL TYPES

PLINTH and PLINTH tank-mixes on Cereals, and PLINTH alone on Peas, Carrots, Parsnips, Parsley, and transplanted Brassicas can be used on all mineral soil types.

PLINTH mixes on Peas, Potatoes, Onions and Leeks are recommended for use on certain soil types only - refer to individual crop section.

Where organic matter or ash content exceeds 6%, or on soils with a high Kd factor, weed control may be reduced. DO NOT USE PLINTH on soils with an organic matter or ash content in excess of 10%.

Crop selectivity may be reduced on stony or gravelly soils, especially if heavy rain occurs after spraying.

### SEED/PLANT-BED PREPARATION

For best results, seedbeds and plant-beds must have a fine, firm tilth. Cobbles and clods can reduce weed control and cause crop seed and roots to be inadequately covered by soil (which may result in crop damage). "Fluffy" seedbeds and plant-beds must be consolidated.

### ASH, TRASH AND STRAW

Continued accumulation of such organic matter in the soil, including farmyard manure and mulches, can reduce weed control (see 'Soil Types' above).

Ash, trash and straw should either be removed or evenly incorporated during the post-cropping/pre-drilling or planting cultivations. Where it is suspected that such incorporation has significantly increased the organic matter of the surface soil, land should be periodically ploughed to disperse the organic matter throughout a greater volume of soil. If in doubt, the organic matter content of the soil should be determined by analysis.

## EMERGED, TRANSPLANTED OR ESTABLISHED WEEDS

PLINTH controls weeds primarily as they germinate and attempt to penetrate the treated soil surface. Emerged, transplanted or established weeds will not be controlled by PLINTH alone.

Such weeds can be controlled during seedbed/plant-bed preparation by the use of an appropriate, non-selective, contact or translocated herbicide such as an approved formulation of paraquat. In certain crops (cereals, peas, potatoes) this application may be made as a tank-mix of PLINTH and paraquat (MAFF Nos. 06674 and 05877), pre-emergence of the crop.

In winter cereals, control of emerged weeds can be achieved by application of PLINTH in tank-mix with appropriate, cereal-selective herbicides - see the sections below on Winter Cereals.

## SOIL MOISTURE

Whilst the activity of PLINTH may be less affected than that of other soil-acting herbicides by dry conditions, some soil moisture is required for activity. Weed control may be reduced if application is followed by prolonged dry weather, especially in the Spring. Best results are obtained when rain falls in the week immediately following application if seedbeds are dry at, or before seedbed moisture is lost if moist at, application.

PLINTH must not be used on soils where surface water is likely to accumulate.

## AFTER APPLICATION

Do not incorporate PLINTH into the soil. Do not disturb the soil by further cultivation once PLINTH has been applied - this will 'break' the herbicide layer and reduce weed control. If soils must be rolled after application of PLINTH, every attempt should be made to minimise soil disturbance.

## MIXING AND SPRAYING

Assuming you require a full tank of spray:-

- Fill the spray tank three-quarters full with clean water.
- Add the required volume of PLINTH, maintaining re-circulation.
- If tank-mixing, add the other product(s) individually, but only when each has fully dispersed.
- Complete filling of the spray-tank with water. If empty pesticide containers have been produced which can be triple-rinsed, remember to do so and include the rinsings in the mix.
- Maintain circulation throughout transportation and application of the spray suspension.

## Staining and Removal of Stains

PLINTH, either in concentrated or diluted form, will stain - care should be taken to prevent spillage onto skin, clothing, etc.

To remove stains:-

- Skin - To remove PLINTH stains from skin, use a cleanser of the kind used by mechanics for removing grease from hands. Repeat over a short period until stains are removed.
- Clothing - To remove PLINTH stains from clothing, light mineral oil may be used to remove most of the chemical from the cloth. On coloured clothes, sunlight will usually bleach out any remaining stain. On white or very light clothes, it is virtually impossible to remove all the stain although it may fade in time.
- Paint - If PLINTH is sprayed or spilled on painted surfaces, the affected area should be immediately wiped with a cloth soaked in light mineral oil.

Hose down machinery immediately after use with a suitable product approved for this purpose. Ensure all washings are carefully disposed of.

### Water volume

Good, even cover of the target is essential. With applications pre-emergence of crop and weeds, the target is the soil surface.

Alone, PLINTH can be applied in a water volume of 100 to 200 litres per hectare, to winter and spring cereals, and to peas.

Applications of PLINTH in tank-mixture to any crop, or alone to other labelled crops, must be made in a minimum water volume of 200 litres per hectare.

### Spray Quality

Ensure your sprayer is in good working order, correctly calibrated and fitted with appropriate nozzles in good condition.

Apply PLINTH as a spray of MEDIUM or FINE quality (as defined by BCPC - see Nozzle Selection Handbook published by the British Crop Protection Council) using the following nozzle types:-

F110/1.0 to 3.0

HC80-90/1.1 to 1.6/3.0

Do not use nozzles with larger apertures, otherwise weed control may be reduced. Operating pressure should be around 3 bar; no greater than 3.5 bar and no less than 2.5 bar.

If using the 100l/ha water volume an 80 mesh in-line filter should be fitted in the supply line to the boom.

### Boom Height

Set the boom height so that spray from alternate nozzles just overlaps above the crop or target whichever is the higher (this should be in the range of 40-55cm).

### Sprayer Speed

A travel speed of between 6 and 8 km/h is advised for tractor-mounted and trailed sprayers. Higher speeds increase the risk of uneven cover caused by excessive boom whip and bounce, as do increased boom widths.

The slower speed is recommended where travel conditions are uneven and/or where the target is in a thick crop or weed cover.

### TANK-MIXES

All PLINTH tank-mixes should be applied in a minimum water volume of 200 l/ha water. PLINTH herbicide should be applied in mixture with other crop protection products, only if the requirements and restrictions on the other product label do not conflict with requirements and restrictions for PLINTH. ALWAYS READ THE LABEL OF THE PARTNER PRODUCT BEFORE USE.

For order of mixing for 2- and 3-way mixes, see "MIXING AND SPRAYING" above. Further details of recommended tank-mixes are given in individual crop sections. Further tank-mixes are under continual development - consult your distributor or pbi Agrochemicals Limited.

### SEQUENTIAL TREATMENTS

PLINTH, both alone and in tank-mixture, can be applied in sequence with any other approved product providing label requirements do not conflict. A 24 hour minimum period should be left between applications unless a longer period is specified on the other product label, or the crop is suffering from stress from the previous application.

## CAUTIONS

Crops following (after normal harvest of) Winter Cereals, Spring Barley, Peas and Potatoes

When PLINTH is used alone, there are no restrictions on the type of following crop which can be grown, although certain cultivations may be required following applications to spring crops. Where PLINTH treated Spring Barley and Peas are followed by a (Winter) Cereal crop there is no need to plough or cultivate, but for all other following crops it is necessary to plough to at least 150 mm.

However, the type of following crop may be restricted when PLINTH has been used in tank-mix with other products - see individual crop/tank-mix sections for details of these restrictions.

Re-drilling after (unexpected failure of) Winter Cereals, Spring Barley, Peas and Potatoes

Autumn crop failure : Plough to at least 150 mm. One of the following crops may then be grown:-  
Spring Wheat, Spring Barley, Maize, Potatoes, Beans, Peas.

Spring crop failure : Plough to at least 150 mm. Spring Barley may then be grown.

Rotational and Re-drilling restrictions - Carrots, Parsley, Parsnips, Brassicas, Onions and Leeks

In the event of crop failure, treated soil must be ploughed or thoroughly cultivated to a minimum depth of 150 mm to ensure any herbicide residues are evenly dispersed throughout the soil. Minimum time intervals (see below) should elapse between the application of PLINTH and the sowing of one of the crops listed.

## Autumn application

Any of the crops listed may be sown or transplanted after a minimum interval of 5 months:-

Spring Barley	Peas	Carrots
Spring Wheat	Brussels Sprouts	Parsnips
Maize	Cabbage	Parsley
Spring Field Beans	Calabrese	Linseed
Broad Beans	Turnips	
Dwarf Beans	Cauliflower	

## Spring and Early Summer application

Any of the crops listed may be sown or transplanted after a minimum interval of 2 months:-

Spring Field Beans	Cabbage	Parsnips
Broad Beans	Calabrese	Parsley
Dwarf Beans	Cauliflower	Linseed
Peas	Turnips	
Brussels Sprouts	Carrots	

Any of the listed crops may be sown or transplanted after a minimum interval of 5 months:-

Any crop (with the exception of red beet, sugar beet and spinach) may be planted or sown. A minimum interval of 12 months should elapse between application and sowing of red beet, sugar beet and spinach.

### Rotational restriction - all crops

Following a season of prolonged dry conditions, land must be well ploughed to a minimum depth of 150 mm before rye-grass is drilled.

### Other General Cautions

PLINTH must not be used on autumn sown spring varieties of wheat or barley.

PLINTH should not be used on protected crops or in greenhouses.

**BEFORE USING PLINTH ON CROPS TO BE PROCESSED, CONSULT YOUR PROCESSOR.**

PLINTH should not be used on crops suffering from stress due to, for example, disease, pest attack, drought, water-logging, poor plant-bed conditions, frost, (micro-) nutrient deficiency, or previous chemical treatment as crop tolerance may be reduced.

Avoid spray boom overlaps.

Strains of Black-grass have developed resistance to many Black-grass herbicides. This may lead to poor control (see Black-grass resistance information on page 6).

DO NOT under-sow treated crops.

## PLINTH ALONE IN LISTED CEREALS

### CROPS

PLINTH herbicide is recommended for use on all varieties of the following winter cereal crops:-

Winter Wheat (including Durum Wheat), Winter Barley, Winter Rye and Triticale.  
PLINTH is also recommended for use in Spring Barley.

### TIMING

Winter Cereals : PLINTH can be applied safely to winter cereals from immediately after drilling up to the early tillering growth stage of the crop (GS Z23), application pre-emergence of both crop and weeds is recommended when PLINTH is used alone.

Spring Barley : pre-emergence of crop and weeds.

PLINTH should not be applied pre-emergence to winter cereal crops drilled after 30 November.

DO NOT apply PLINTH alone after the end of March (mid-April in Scotland) unless rain is imminent. If application is followed by an extended dry spell, weed control may be reduced.

### SEED COVER

Pre-emergence applications of PLINTH should only be made to cereals when the seed is covered with a minimum of 32 mm of settled soil.

PLINTH can be applied safely to such shallow-drilled crops if application is delayed until after the crop has emerged (when tank-mixes with other cereal selective herbicides should be used).

### WEEDS

For best results, apply PLINTH as soon as possible after final cultivation and drilling, but before weed seeds germinate. For best results in controlling Black-grass, this interval should not exceed 2 days.

For post-emergence applications or where weeds such as Black-grass, Wild-oats, Rye-grass, Mayweeds and Groundsel are expected, use tank-mixes with appropriate products (see later sections, below).

#### METHOD OF APPLICATION

See "MIXING AND SPRAYING"; page 7.

#### CAUTIONS

See page 10 above.

#### SEQUENTIAL TREATMENTS

See page 9 above.

PLINTH may be applied in sequence with tri-allate (MAFF No. 00174) provided only one of the applications is made pre-emergence of the crop.

WEEDS CONTROLLED - pre-emergence of PLINTH herbicide alone to listed cereals. Winter Wheat (inc. Durum Wheat), Winter Barley, Spring Barley (spring sown), Winter Rye and Triticale.

WEEDS CONTROLLED PRE-EMERGENCE	PLINTH DOSE, l/ha		
	6	4	Not Spring Barley 3
● = Susceptible (complete or near complete kill) ○ = Moderately susceptible - good control in favourable conditions			
<b>Grass Weeds</b>			
Annual Meadow-grass	●	●	●
Awned Canary-grass <sup>a</sup>	○	-	-
Black-grass <sup>b</sup>	○	-	-
Rough Meadow-grass	○	○	○
Wild-oats <sup>a,c,d</sup>	○	-	-
<b>Broad-leaved Weeds</b>			
Black-bindweed	●	-	-
Black Nightshade	●	-	-
Cleavers <sup>de</sup>	○	-	-
Common Chickweed	●	●	●
Common Fumitory <sup>e</sup>	●	○	-
Common Orache	●	●	○
Common Poppy	●	●	○
Corn Buttercup	●	-	-
Corn Marigold	●	●	●
Fat-hen	●	●	○
Field Forget-me-not	●	●	○
Field Pansy	●	●	○
Hemp-nettle (Day Nettle)	●	●	●
Henbit Dead-nettle	●	●	●
Knotgrass	●	●	○
Mayweeds <sup>ef</sup>	○	-	-
Parsley Piert	●	●	●
Red Dead-nettle	●	●	●
Redshank	●	-	-
Scarlet Pimpernel	●	●	●
Shepherd's Purse	●	○	-
Small Nettle	●	●	-
Smooth Sowthistle	●	●	○
Speedwells	●	●	●
Volunteer Oilseed Rape <sup>d</sup>	●	●	●

<sup>a</sup> Not in Spring Barley.

<sup>b</sup> Good control of Black-grass is achieved when PLINTH is applied before Black-grass seed has germinated (see 'WEEDS' above). Once seed has chitted, mixes with isotrotrun, imazamethabenz-methyl or chlorotoluron should be considered. Note: Strains of Black-grass have developed resistance to many Black-grass herbicides. This may lead to poor control (see resistance warning on INSTRUCTIONS FOR USE page 6).

<sup>c</sup> A useful level of control of Wild-oats will often be achieved when PLINTH is applied pre-emergence at this dose in the Autumn. However, where significant populations are expected, mixes with isotrotrun, imazamethabenz-methyl or chlorotoluron should be considered.

- <sup>d</sup> Deep germinating Volunteer Oilseed Rape, Wild-oats and Cleavers may not be controlled.
- <sup>e</sup> Control of Cleavers, Common Fumitory and Mayweeds is less reliable in Spring Barley (following a spring application of PLINTH).
- <sup>f</sup> PLINTH is not recommended for the control of heavy populations of Mayweeds especially on light soils.
- <sup>g</sup> Cleavers, emerging in dry conditions may not be controlled.

## PLINTH + isoproturon (IPU) IN WINTER CEREALS

### INTRODUCTION

PLINTH and isoproturon can be applied in tank-mixture in different ratios to provide a flexible solution to particular annual grass-weed problems. All recommended mixtures will also control a wide range of annual broad-leaved weeds.

When applied pre-emergence of Black-grass, the use of two products of different modes of action each having activity on the weed will help prevent or slow the development of Black-grass resistance. (See Black-grass resistance information on page 6).

### FOLLOWING CROPS

See "CAUTIONS", page 10.

### CROPS

All varieties of Winter Wheat (excluding Durum Wheat) and Winter Barley may be treated. Only the following Winter Rye varieties may be treated- Animo, Ashill, Dominant, Lovaszpatonai, Rheidol and Tetragorzow. Only the following Triticale varieties may be treated- Aquarius, Bokolo, Clercal, Lasko, Salvo, Torrs.

Do not treat spring varieties drilled in the autumn or varieties of Winter Rye and Triticale not listed here.

### Seed Cover

With pre-emergence (of crop) applications, seed must be covered with at least 32 mm of settled soil. Tank-mixes of PLINTH + isoproturon can be applied safely to shallow-drilled crops post-emergence of the crop, provided crop roots are at least 30 mm below the soil surface.

### TIMING

#### Crops

Winter Wheat and Winter Barley - post-emergence up to the early tillering stage of crop growth, GS Z23.

Winter Rye and Triticale - pre-emergence of the crop only.

## Weeds

Weeds are controlled at their pre-emergence stage only, see "WEEDS CONTROLLED" Table, page 17. For details of post-emergence weed control refer to the partner products label.

## METHOD OF APPLICATION

See 'MIXING AND SPRAYING', page 7.

## TANK-MIXES

See 'TANK-MIXES', page 9. Tank-mixes are under continual development - consult your distributor or pbi Agrochemicals Limited.

## SEQUENTIAL TREATMENTS

See page 9.

## CAUTIONS

### Frost Warning

If frost is likely, avoid spraying crops which are not frost-hardened. Avoid application during periods of prolonged or severe frost.

### Rapid Growth

Early sown crops (eg September-drilled) may be susceptible to damage if application takes place during a period of rapid growth in the Autumn.

### Spray Boom

Avoid spray boom overlap.

WEEDS CONTROLLED pre-emergence - by PLINTH + isoproturon (IPU) in Winter Cereals.

Use of 4.0 litres of PLINTH in tank mix with 2.5 litres of isoproturon (500g/l MAFF Nos. 06172, 08100, 08101 or 08102) or 2.0 litres of isoproturon (650g/l MAFF No. 07034) or 1.5kg of isoproturon (83% w/w MAFF No. 07778) will control the following susceptible weeds before emergence.

Grass Weeds
Annual Meadow-grass
Black-grass*
Rough Meadow-grass
Wild-oats
Broad-leaved Weeds
Cleavers
Common Chickweed
Common Orache
Common Poppy
Corn Marigold
Corn Spurrey
Fat-hen
Field Forget-me-not
Field Pansy
Groundsel
Hemp-nettle (Day-nettle)
Henbit Dead-nettle
Knotgrass
Mayweed
Parsley Piert
Red Dead-nettle
Scarlet Pimpernel
Shepherd's Purse
Small Nettle
Smooth Sowthistle
Speedwells; Common, Field & Ivy-leaved
Volunteer Oilseed Rape

\*Strains of Black-grass have developed resistance to many Black-grass herbicides. This may lead to poor control (see Black-grass resistance information on page 6).

Plinth is compatible with the following formulations of isoproturon (MAFF Nos. 06172, 08100, 08101, 08102, 07034, 07778).

## OTHER PLINTH TANK MIXES IN WINTER CEREALS

PLINTH is compatible with chlorotoluron (MAFF No. 04848), imazamethabenz-methyl (MAFF No. 03737) and isoproturon (MAFF Nos. 06172, 08100, 08101, 08102, 07034 or 07778).

For control of weeds post-emergence refer to the label of the partner product.

Always read and comply with the label recommendations of the partner product.

## COMBINING (DRY HARVEST) PEAS

PLINTH, in combining peas, has two primary applications :

1. PLINTH alone (or in tank-mix with paraquat MAFF Nos. 06674 or 05877),  
and
2. PLINTH in tank-mix with cyanazine (MAFF No. 07009).

PLINTH alone

## CROPS

PLINTH can be used for pre-emergence control of annual weeds in all varieties of dry harvest (combining) peas.

## Processed Crops

PLINTH is approved for use on crops to be processed for human consumption. Before using on crops to be processed, consult your processor.

## SOIL TYPES

PLINTH may be used on all mineral soils, including sands but excluding stony and gravelly soils.

## SEEDBED PREPARATION

Cultivate the soil to produce a level seedbed with a fine, clod-free tilth. Fluffy seedbeds must be consolidated. Rolling must be completed before application of PLINTH, as disturbance of treated soil may reduce weed control.

## DRILLING DEPTH

Seed must be drilled so that after consolidation, it is covered by at least 25 mm of settled soil.

## TIMING OF APPLICATION

PLINTH should be applied pre-emergence of both crop and weeds, as soon as possible after sowing and final seedbed cultivation/consolidation. PLINTH must not be applied once the combining pea seed has cracked or else crop damage may result.

DO NOT apply PLINTH alone after the end of March (mid-April in Scotland) unless rain is imminent. For application after the end of March (mid-April in Scotland), use a tank-mix of PLINTH and cyanazine (MAFF No. 07009) (see below. Remember that cyanazine can only be used on certain soil types).

## EMERGED, TRANSPLANTED OR ESTABLISHED WEEDS

If emerged, transplanted or established weeds are present after drilling but before crop emergence paraquat (MAFF Nos.06674 or 05877) can be tank-mixed with PLINTH.

## DOSE AND WEEDS COMBINED

Apply PLINTH at 4 or 6 litres per hectare depending on the anticipated weed spectrum - see "WEEDS CONTROLLED" Table on page 21.

## FOLLOWING CROPS

Where PLINTH treated peas are followed by a (winter) cereal crop there is no need to plough or cultivate, but for all other following crops it is necessary to plough or cultivate to at least 150 mm. In case of crop failure the land must be well ploughed to a depth of at least 150 mm.

## OTHER CAUTIONS

See pages 10 and 11 above.

## SEQUENTIAL TREATMENTS

Sequences with tank-mixtures of cyanazine (MAFF No. 07009) plus bentazone/MCPB (MAFF No. 04002).

Improved control of competitive weed species can be obtained when a pre-emergence application of PLINTH is followed by a recommended post-emergence application. Consult your supplier for details of programmed approaches to weed control in combining peas.

## WEEDS CONTROLLED - Peas

All the weeds listed are controlled at the pre-emergence stage only.

	PRODUCT	PLINTH	PLINTH	PLINTH + cyanazine (MAFF No. 07009)	
	DOSE (l/ha)	6	4	4+1.5	3+1.5
<b>Grass Weeds</b>					
Black-grass <sup>a</sup>	●	●	-	-	-
Annual Meadow-grass	●	●	●	●	●
Rough Meadow-grass	●	●	○	○	○
<b>Broad-leaved Weeds</b>					
Black-bindweed	●	●	-	○	-
Black Nightshade	●	●	-	○	-
Charlock	-	-	-	●	●
Cleavers	○ <sup>b</sup>	○	-	○ <sup>b</sup>	-
Common Chickweed	●	●	●	●	●
Common Fumitory	○	○	○	○	-
Common Orache	●	●	●	●	●
Common Poppy	●	●	●	●	●
Corn Buttercup	●	●	-	-	-
Corn Marigold	●	●	●	●	●
Fat-hen	●	●	●	●	●
Field Forget-me-not	●	●	●	●	●
Field Pansy	●	●	●	●	-
Groundsel	-	-	-	-	-
Hemp-nettle (Day Nettle)	●	●	●	●	●
Henbit Dead-nettle	●	●	●	●	●
Knotgrass	●	●	●	●	●
Mayweeds	○ <sup>c</sup>	-	-	● <sup>c</sup>	● <sup>c</sup>
Parsley Piert	●	●	●	●	●
Red Dead-nettle	●	●	●	●	●
Redshank	●	●	-	-	-
Scarlet Pimpernel	●	●	●	●	●
Shepherd's-purse	●	○	○	○	○
Small Nettle	●	●	●	●	●
Smooth Sowthistle	●	●	●	●	○
Speedwells; Common, Field, Ivy-leaved	●	●	●	●	●
Volunteer Oilseed Rape	○ <sup>d</sup>	○ <sup>d</sup>	○ <sup>d</sup>	○ <sup>d</sup>	○ <sup>d</sup>

● = Susceptible, complete or near complete kill.

○ = Moderately susceptible, good control under favourable conditions.

a = Strains of Black-grass have developed resistance to many Black-grass herbicides. This may lead to poor control (see Black-grass resistance information on page 6).

b = Suppression only. Deep germinating cleavers or those germinating in dry conditions may not be controlled.

c = Heavy populations of Mayweeds, especially on light soil, may not be controlled by PLINTH.

d = Deep germinating Volunteer Oilseed Rape may not be controlled. A follow up treatment may be required for deep germinators or heavy populations.

## COMBINING (DRY HARVEST) PEAS

### PLINTH IN TANK-MIX WITH CYANAZINE (MAFF No. 07009)

#### INTRODUCTION

PLINTH + cyanazine controls a broad spectrum of weeds including heavy Mayweed infestations, Groundsel and Charlock. The good soil mobility of cyanazine ensures more reliable results when dry conditions exist at and just after spraying. For these reasons, this tank-mixture is recommended in preference to PLINTH alone for applications after the end of March (middle of April in Scotland).

#### CROPS

See cyanazine (MAFF No. 07009) product label for any varietal restrictions.

This tank-mix is approved for use on crops to be processed for human consumption. Before using on crops to be processed, consult your processor.

#### SOIL TYPES

Do NOT use on very stony or gravelly soils, or on soils with an organic matter content of greater than 10%.

This tank-mix can be used on all mineral soils except Coarse Sand (CS), Sand (S), and Fine Sand (FS) as defined in the MAFF Soil Textures (85 System).

#### SEEDBED PREPARATION

Cultivate the soil to produce a level seedbed with a fine, clod-free tilth. Loose, fluffy seedbeds should be consolidated. Rolling must be completed before application, as disturbance of treated soil may reduce weed control.

#### DRILLING DEPTH

Seed must be drilled so that, after consolidation, it is covered by at least 25 mm of settled soil.

#### EMERGED, TRANSPLANTED OR ESTABLISHED WEEDS

If emerged, transplanted or established weeds are present after drilling but before crop emergence, they should be removed by the addition of paraquat (MAFF Nos. 06674 or 05877) to the PLINTH and cyanazine tank-mix. The paraquat should be added last, after the other products have fully dispersed and agitation of the tank-mix must be maintained until application is complete.

## TIMING

See 'INTRODUCTION' above.

Apply pre-emergence of both crop and weeds, as soon as possible after sowing and final seedbed cultivation/consolidation.

PLINTH must not be applied once the combining pea seed has cracked or else crop damage may result.

## DOSE

Use 3 or 4 litres per hectare of PLINTH with 1.5 litres of cyanazine (MAFF No. 07009).

Use the lower dose of PLINTH on light and medium soil types only; the higher dose can be used on light, medium and heavy soil types.

## WEEDS CONTROLLED

See Table on page 21.

## FOLLOWING CROPS

If peas are to be followed by crops other than cereals, the land must be well ploughed to a minimum depth of 150 mm.

In case of failure of the treated crop, the land must be well ploughed to a minimum depth of 150 mm.

See also 'CAUTIONS' section on page 10.

## MAINCROP POTATOES

PLINTH in maincrop potatoes has two, primary applications :

1. PLINTH in tank-mix with cyanazine (MAFF No. 07009)  
and
2. PLINTH in tank-mix with metribuzin (MAFF Nos. 03755 and 04991).

PLINTH is not recommended for use alone in potatoes.

## PLINTH + CYANAZINE

This tank-mix controls a broad spectrum of weeds, including heavy Mayweed infestations, Groundsel and Brassica weeds. When dry conditions exist at and just after application, the good soil mobility of cyanazine produces more reliable results.

## CROPS

Use on all varieties of maincrop potatoes only.

The PLINTH + cyanazine (MAFF No. 07009) tank-mix is approved for use on crops to be processed for human consumption. Before using on crops to be processed, consult your processor.

DO NOT treat protected crops.

## SOIL TYPES

DO NOT use on soils with an organic matter content greater than 10% or weed control will be reduced.

DO NOT use on very stony or gravelly soils as crop damage may occur.

This tank-mix is recommended for use on all mineral soils except Coarse Sand (CS), Sand (S), and Fine Sand (FS) as defined in the MAFF Soil Textures (85 System).

## SEEDBED PREPARATION

Cultivate the soil to produce a fine, clod-free tilth prior to planting. After planting, ridge-up immediately to produce well-rounded ridges. On steep-sided ridges which become rounded by subsequent weathering, weed control may be reduced if untreated soil is exposed.

Loose structured ridges should be allowed time for soil-settling before application.

If re-ridging is needed, postpone application until after the final ridging operation. If crop shoots have emerged, ensure they are completely covered during re-ridging or crop damage may occur.

DO NOT cultivate after application.

## TIMING

DO NOT apply later than 7 days before emergence.

If application is followed by prolonged dry conditions, weed control may be reduced. If this happens, an application of an approved recommended contact herbicide (eg paraquat) may be necessary to control weeds that emerge during this period.

If emerged, established or transplanted weeds are present after ridging up, they should be removed by adding the appropriate dose of paraquat (MAFF Nos.06674 or 05877) to the PLINTH + cyanazine tank-mix. The paraquat must be added last, after the other products have been fully dispersed and agitation of the tank-mix must be maintained until application is complete.

## DOSE

Use 4.0 litres per hectare of PLINTH tank-mixed with 1.5 l/ha of cyanazine (MAFF No. 07009).

## WEEDS CONTROLLED

See Table on page 26.

## APPLICATION DETAILS

Apply in a minimum volume of 200 litres of water per hectare. The spray boom should be maintained at a height of 56 cm above the top of the ridge.

## CAUTIONS

Slight distortion and discoloration of the initial shoots may appear when heavy rain falls after application but before crop emergence, especially on Very Light Soils (LS, LFS, CSL). These effects are quickly outgrown and subsequent growth is unaffected.

Study the cyanazine (MAFF No. 07009) product label carefully before use.

## WEEDS CONTROLLED - Maincrop Potatoes

All the weeds listed below are controlled at the pre-emergence stage only.

PRODUCTS	PLINTH + cyanazine (MAFF No. 07009)	PLINTH + metribuzin (MAFF Nos. 03755 and 04991)
	DOSES (l/ha)	DOSES (l/ha)
	4.0 + 1.5	4.0 + 0.5 kg
Grass Weeds		
Annual Meadow-grass	●	●
Rough Meadow-grass	○	○
Broad-leaved Weeds		
Black-bindweed	○	○
Black Nightshade	○	-
Bugloss	-	●
Charlock	●	●
Cleavers	a	a
Common Chickweed	●	●
Common Fumitory	○ <sup>b</sup>	○ <sup>b</sup>
Common Orache	●	●
Common Poppy	●	●
Corn Marigold	●	●
Fat-hen	●	●
Field Forget-me-not	●	●
Field Pansy	●	●
Groundsel	●	●
Hemp-nettle (Day Nettle)	●	●
Henbit Dead-nettle	●	●
Knotgrass	●	●
Mayweeds	●	●
Parsley Piert	●	-
Red Dead-nettle	●	●
Redshank	●	●
Scarlet Pimpernel	●	●
Shepherd's-purse	○	○
Small Nettle	●	●
Smooth Sowthistle	●	○
Speedwells	●	●
Volunteer Oilseed Rape	○ <sup>c</sup>	○ <sup>c</sup>

● = Susceptible; complete or near complete kill.

○ = Moderately susceptible; good control under favourable conditions.

a = Suppression only.

b = Control of Common Fumitory is less reliable following application of PLINTH in the spring.

c = Deep-germinating Volunteer Oilseed Rape may not be controlled.

## MAINCROP POTATOES

PLINTH + metribuzin (MAFF Nos. 03755 and 04991)

### INTRODUCTION

This tank-mix controls a broad spectrum of annual weeds including dense Mayweed infestations and Groundsel. The contact activity of metribuzin enables the control of small emerging weeds. Metribuzin (MAFF Nos. 03755 and 04991) products can be applied either as a tank-mix with PLINTH (applied no later than 7 days before crop emergence), or in a sequence (following PLINTH application) applying the metribuzin at the early post-crop emergence stage but no later than the one pair of true leaves growth stage of the weeds. The sequential use of PLINTH followed by metribuzin is preferable in dry conditions (see "SOIL MOISTURE" below) or where Black-bindweed is anticipated.

### CROPS

All varieties of maincrop potatoes may be treated, for varietal restrictions on the use of metribuzin please refer to the metribuzin label.

PLINTH + metribuzin (MAFF Nos. 03755 and 04991) tank-mixes are approved for use on crops to be processed for human consumption. Before using on crops to be processed, consult your processor.

DO NOT treat protected crops.

### SOIL TYPES

Do not use on Sands (CS, S, FS, LCS), or on stony or gravelly soils as there is a risk of crop damage especially if heavy rain falls soon after application.

### SEEDBED PREPARATION and APPLICATION DETAILS

See PLINTH/cyanazine sections above (pages 24 and 25).

### SOIL MOISTURE

If application is followed by prolonged dry conditions, weed control may be reduced. When this happens, application of an approved, recommended contact herbicide (eg paraquat) may be necessary to control weeds that emerge during the dry spell, but before the crop emerges.

Alternatively where PLINTH and metribuzin are to be used during dry conditions, PLINTH may be applied at the recommended timing (see 'TIMING', below) with the application of metribuzin being delayed until after the first flush of weeds has emerged but no later than the one pair of true leaves growth stage of the weeds.

The active ingredient of PLINTH has a low water solubility and is not readily moved by irrigation. It remains close to the soil surface to control successive flushes of germinating weeds. However, if coarse irrigation washes treated soil particles to the base of the ridge (exposing untreated soil) weed control may be reduced.

#### TIMING

Do not apply PLINTH or PLINTH + metribuzin tank-mixes later than 7 days before crop-emergence. Weeds are controlled pre-emergence - see "WEEDS CONTROLLED" table (page 26).

#### DOSE

Use 4.0 litres per hectare of PLINTH with 0.5 kg of metribuzin (MAFF Nos. 03755 and 04991),

#### WEEDS CONTROLLED

See Table, page 26.

#### CAUTIONS

Slight distortion and discoloration of the initial shoots may appear when heavy rain falls after application but before crop emergence, especially on Very Light Soils (LS, LFS, CSL). These effects are quickly outgrown and subsequent growth is unaffected.

#### Following Crops

See the metribuzin product label for full details. Before drilling or planting any succeeding crop, the soil must be mouldboard ploughed to a depth of at least 150 mm. This should be carried out as soon as possible after lifting the potato crop, but no later than the end of December.

In the same year, provided at least 16 weeks have passed after application, Ryegrass, Cereals or Winter Beans may be sown. In the Spring of the following year any crop, except Lettuce and Radish, may be grown.

Study the metribuzin product label carefully before use.

## CARROTS, PARSLEY, PARSNIPS (Drilled Crops)

### CROPS

PLINTH can be applied to all varieties.

### TIMING

Apply PLINTH as soon as possible after drilling, and before emergence of both crop and weeds either as a tank-mix with linuron (MAFF No. 08186) or in sequence with linuron.

### DOSE

Apply PLINTH at either 4 or 6 litres per hectare depending on the anticipated weed spectrum.

When applying PLINTH as a tank-mix with linuron (MAFF No. 08186) or close sequence with linuron, use 4 l/ha of PLINTH with the dose of linuron recommended for the soil type to be treated.

### TANK-MIXES

If emerged, established or transplanted weeds are present after drilling, PLINTH may be applied as a tank-mix at the 6 l/ha dose with paraquat (MAFF Nos. 06674 or 05877), prior to crop emergence.

### WEED CONTROL

See Table on page 33.

### FOLLOWING CROPS/RE-DRILLING

See pages 10 and 11.

## TRANSPLANTED VEGETABLE BRASSICAS

(Broccoli, Brussels Sprouts, Cabbages, Calabrese, Cauliflower)

### CROPS

PLINTH may be used prior to transplanting all varieties.

### TIMING

Apply PLINTH after final plant bed cultivation but before transplanting brassica plants. Propachlor (MAFF No. 01688) should be applied post-planting in accordance with its label recommendations.

### DOSE

Apply PLINTH at 4 litres per hectare as a sequence with propachlor (MAFF No. 01688) at 9 litres per hectare.

### TANK-MIXES

If emerged, established or transplanted weeds are present at the pre-transplanting stage, apply PLINTH with paraquat (MAFF Nos. 06674 or 05877) (prior to transplanting the crop).

### CAUTIONS

DO NOT INCORPORATE and avoid all unnecessary soil disturbance after application.

If necessary, irrigation should be used before application of PLINTH as some soil moisture is needed to activate PLINTH herbicide.

DO NOT apply PLINTH post-planting as crop damage may occur.

When transplanting, care must be taken not to introduce treated soil into the root zone of the transplants or crop damage may occur.

### WEED CONTROL

See table on page 33.

### FOLLOWING CROPS/RE-DRILLING

See pages 10 and 11.

ONIONS (spring and autumn, drilled and transplanted) and LEEKS (drilled only)

## CROPS

PLINTH can be used with all varieties of onions and leeks.

## TIMING

Drilled crops (Onions and Leeks) - apply PLINTH in tank-mix with propachlor (MAFF No. 01688) as soon as possible after drilling but before emergence of crop and weeds.

Transplanted Crops (Onions) - apply PLINTH before transplanting. Propachlor should be applied after transplanting after the transplants have hardened off but before weed emergence.

## EMERGED, ESTABLISHED and TRANSPLANTED WEEDS

If such weeds are present prior to transplanting onions, PLINTH can be applied in a tank-mix with paraquat (MAFF Nos. 06674 or 05877).

## DOSE

Apply PLINTH at 2 litres per hectare, in tank-mix on drilled crops or in a sequence on transplanted crops, with the recommended rate of propachlor (MAFF No. 01688).

## WEED CONTROL

See Table on page 33.

## CAUTIONS/RESTRICTIONS

When transplanting, take care to avoid the introduction of treated soil into the root zone of transplants as crop damage may result.

PLINTH IS NOT RECOMMENDED for use on onions or leeks grown on Sands (CS, S, FS, LCS) or Very Light soils (LS, LFS, CSL), as crop damage may result.

PLINTH IS NOT RECOMMENDED for use on onions or leeks grown on fen soils or other soils containing more than 10% organic matter, as weed control can be reduced.

Onion and leek seed must be covered with a minimum of 25mm of settled soil or crop damage may result.

DO NOT exceed the recommended dose of 2 litres per hectare of PLINTH, or crop damage may occur.

DO NOT apply PLINTH to any onion or leek crop when heavy rain is forecast. Crop damage may occur if heavy rain follows soon after application.

Study the propachlor (MAFF No. 01688) product label carefully, especially restrictions affecting its use on transplanted multi-seeded onions and on leeks.

#### FOLLOWING CROPS/RE-DRILLING

See pages 10 and 11.

WEEDS CONTROLLED - Carrots, Parsnips, Parsley, Onions, Leeks, Vegetable Brassicas

Crop	Carrots, Parsnips, Parsley		Onions; Leeks (drilled)	Transplanted Brassicas**
	PLINTH	PLINTH	PLINTH + propachlor (MAFF No. 01688)	
Dose (litres/hectare)	6	4	2 + 9*	4 + 9
Grass Weeds				
Black-grass	●	-	●	●
Annual Meadow-grass	●	●	●	●
Rough Meadow-grass	●	+	-	+
Broad-leaved Weeds				
Black-bindweed	●	-	-	-
Black Nightshade	●	-	+	+
Common Chickweed	●	●	●	●
Cleavers #	●	-	●	●
Corn Buttercup	●	-	-	-
Corn Marigold	●	●	●	●
Corn Spurrey	-	-	●	●
Dead-nettles	●	●	●	●
Fat-hen	●	●	+	●
Field Forget-me-not	●	●	+	●
Common Fumitory #	●	+	-	+
Gallant Soldier	-	-	●	●
Groundsel	-	-	●	●
Hemp-nettle (Day nettle)	●	●	●	●
Henbit Dead-nettle	●	●	●	●
Knotgrass	●	●	+	●
Mayweeds #	●	-	●	●
Orache, Common	●	●	-	●
Pansy, Field	●	●	+	●
Parsley Piert	●	●	+	●
Poppy, Common	●	●	+	●
Redshank	●	-	-	-
Small Nettle	●	●	●	●
Sow-thistle, Smooth	●	●	+	●
Speedwells	●	●	●	●
Scarlet Pimpernel	●	●	+	●
Shepherd's-purse	●	+	●	●
Volunteer Oilseed Rape♦	●	●	-	●

Key to symbols

● Complete or near complete kill.

+ Good control under favourable conditions.

\*\* Sequential application.

# Control of cleavers, fumitory and mayweeds is less reliable following the application of PLINTH in the spring.

♦ Deep germinating Volunteer Oilseed Rape may not be controlled.

\* Tank-mix (drilled crops) or sequential (transplanted onions) applications.

Section 6 of the Health & Safety at Work Act  
Additional Product Safety Information

(This section does not form part of the product label under The Control of Pesticides Regulations 1986 [COPR]).

#### Off Label Uses

This label does not provide any other pesticidal use of the product; do not use unless you have assessed any potential hazard involved, the safety measures required and that the use is also approved under COPR.

#### Disposal

Follow the guidance on the disposal of pesticides as given in Part 5 of the MAFF/HSE Pesticides: Code of Practice for the Safe Use of Pesticides on Farms and Holdings.

#### Personal Protective Equipment (PPE)

See Precautions Section on main label area and Spillages Section below.

Gloves - Made from Neoprene or Nitrile at least 0.4 mm thick.

Face Shield/Goggles - BS 2092.

Coverall - Saranex coated or equivalent.

#### Spillage

Maintain maximum ventilation (open doors and windows in building). In the event of a spillage in a confined space prolonged inhalation may cause irritation of the eyes, nose and throat.

Do not breathe vapour. Keep people, animals and ignition sources away. Avoid skin and eye contact with product or contaminated surfaces. Do not eat, drink or smoke. Wash thoroughly immediately after handling or if contaminated.

**PROTECTIVE CLOTHING MUST BE WORN, i.e. COVERALLS, IMPERVIOUS PROTECTIVE GLOVES, RUBBER BOOTS, FACE SHIELD OR GOGGLES.**

Contain spillages with sufficient absorbent material to absorb all the liquid. Sweep into a suitable container and store in a safe place until disposal. Prevent liquid from entering drains, sewers, watercourses and ponds. NB: Inform the local office of the Environment Agency or in Scotland, the Scottish Environment Protection Agency if the spillage enters a drain leading to a watercourse. If the spillage enters a drain leading to a sewage works, contact the Regional Water plc, or in Scotland the relevant water authority.

#### Medical Information

If you feel unwell and suffer any of the following symptoms after exposure to this product seek medical advice - show the label where possible.

Ingestion of large quantities may cause nausea, vomiting and diarrhoea. Risk of chemical pneumonia or pulmonary edema caused by aspiration of solvent into the lungs.

#### Guide to Doctor

Contact: pbi Agrochemicals Ltd  
01992 712579 (Business Hours)  
Or the Poisons Information Centre