

Better DF

(MAFF 06250)

A residual herbicide for
the control of annual
broad-leaved weeds in
sugar beet, fodder beet
and mangels



SIPCAM U.K.

Better DF

(MAFF 06250)

Contains 65% w/w chloridazon.

A residual herbicide for the control of annual broad-leaved weeds in sugar beet, fodder beet and mangels.

This leaflet is part of the approved product label.



DANGEROUS FOR THE ENVIRONMENT

Very Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

Contains Chloridazon.

May produce an allergic reaction.

Safety Data Sheet available for the professional user on request.

To avoid risks to man and the environment, comply with the instructions for use.

IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL HERBICIDE

Crops	Maximum individual dose (kg product/ha)	Maximum number of treatments	Maximum total dose	Latest time of application
Sugar beet	Pre-crop emergence – 4.0	1 per crop	See 'Other specific restrictions'	Before crop emergence
	Post crop emergence – 0.7	3 per crop	See 'Other specific restrictions'	Before 8 expanded true leaf stage
Fodder beet, mangel	Pre-crop emergence – 4.0	1 per crop	See 'Other specific restrictions'	Before crop emergence

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment.

WEAR SUITABLE GLOVES when handling the concentrate.

However engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

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

Other specific restrictions:

A maximum total dose of 2.6 kg chloridazon/hectare may only be applied every third year on the same field.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS

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

SIPCAM UK CONDITIONS OF SUPPLY

All goods supplied by us are of high grade, but as we cannot exercise control over their mixing or use, all conditions and warranties, statutory or otherwise, as to the quality or fitness of our goods for any purpose, are excluded and no responsibility will be accepted by us for any damage or injury whatsoever arising from their storage, handling, application or use.

BETTER DF 01/2011

'Better DF' is a trademark of Sipcaml UK Limited.

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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.

Better DF is a soil acting residual herbicide for the control of broad-leaved weeds in sugar beet, fodder beet and mangels.

Better DF may be used pre-drilling alone or in mixture with tri-allate, pre-emergence of the crop or as a post-emergence spray in mixture with phenmedipham in sugar beet.

Better DF relies on adequate soil moisture for good results.

All varieties of sugar beet, fodder beet and mangels may be treated with Better DF.

MIXING

Three quarters fill the spray tank with clean water and begin agitation. Add the required quantity of Better DF slowly to the tank and complete filling. Continue agitation until spraying is completed.

When tank mixes with triallater or phenmedipham are to be used, add Better DF to the spray tank first. The tank mixes should be used immediately after mixing.

CONVENTIONAL APPLICATION

Apply Better DF overall in 200-400 litres water per hectare using a FINE spray (BCPC classification).

REPEAT LOW DOSE APPLICATIONS (POST-EMERGENCE IN SUGAR BEET ONLY).

Apply the mixture of Better DF with phenmedipham in 100 litres per hectare of water using a FINE spray (BCPC classification).

BAND SPRAYING (CONVENTIONAL APPLICATION, PRE-CROP EMERGENCE ONLY).

Better DF may be applied as a band spray.

When band spraying, set up the sprayer according to the manufacturer's instructions. Use nozzles and pressures as recommended to achieve an application volume of 240 litres per sprayed hectare over a 180 mm band. For band application use the amount of Better DF appropriate to an overall application in 240 litres of water per hectare.

The area of crop treated based upon a 180 mm band width varies with the crop row width as follows:

Row Width (mm)	Area Treated (Ha)	Row Width (mm)	Area Treated (Ha)
460	2.6	540	3.0
480	2.7	560	3.1
500	2.8	580	3.2
520	2.9	600	3.3

RATES OF USE

The rate of use of Better DF should be adjusted according to the soil texture of the fields to be sprayed (see below).

Where soil textures vary within a field, choose an application rate appropriate to the lightest soil type in the field. This may result in poorer weed control on areas of heavier soil type.

ADAS Soil Texture	Soils	Rate of BETTER DF	BETTER DF + TRI-ALLATE FORMULATION	
			Amount of BETTER FLOWABLE Litres/	Amount of TRI-ALLATE* Litres/Hectare
Sands	Loamy Coarse Sand	1.7 kg/ha	Not Recommended	
Very Light Soils	Loamy Sand			
	Loamy Fine Sand			
Light Soils	Coarse Sandy Loam	2.8 – 3.1 kg/ha **	2.2 kg/ha	3 litres/ha
	Sandy Loam			
	Fine Sandy Loam			
Medium Soils	Sandy Silt Loam	4.0 kg/ha	3.0 kg/ha	3 – 3.5 litres/ha
	Silty Loam (85)			
	Sandy Clay Loam			
	Clay Loam			
	Silty Clay Loam			

* tri-allate ** The higher rate of Better DF should only be used on the heavier soils in this category.

Take care to avoid overdosing.

Do not use Better DF on soils with organic matter greater than 5%.

NOTE: Where the higher rates of application are used the product cannot be applied at pre and post emergence of the crop.

WEED SPECTRUM

Pre-drilling or pre-emergence application will control the following weeds.

The range of species controlled and the degree of control achieved depends on the weed size at application.

Susceptible

Annual Meadowgrass	Common Orache	Field Pennycress	Shepherd's-purse
Black-bindweed	Common Poppy	Knotgrass	Small Nettle
Black Nightshade	Common Hempnettle	Mayweeds	Speedwells
Charlock	Corn Spurrey	Red Deadnettle	Wild Radish
Common Chickweed	Fat-hen	Redshank	

Moderately Susceptible

Common Fumitory	Groundsel	Prickly Sow-thistle	Scarlet Pimpernel
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Moderately Resistant

Cleavers	Smooth Sow-thistle	Spurges	Vetches
Field Pansy			

PRE-DRILLING APPLICATIONS IN SUGAR BEET, FODDER BEET AND MANGELS

Apply the recommended rate of Better DF overall. Best weed control will be achieved where application is followed immediately by incorporation into the top 2.5 cm of the soil. Incorporation will be particularly beneficial in dry soil conditions where a surface spray alone may not give satisfactory control.

Incorporation may be achieved by two harrowings at right angles to each other. Spring tine or zig-zag harrows may be used with no more than 10 cm stagger and set to achieve a maximum depth of 7.5 cm to 10 cm into the soil. Take particular care when harrowing not to penetrate too deeply. Incorporation deeper than 2.5 cm causes dilution of the herbicide treated layer and may result in reduced weed control.

For best results of drill the crop as soon as possible after incorporation.

On sugar beet where Wild-oat, Black-grass and other annual grass weeds are a problem, a tank mix with tri-allate (MAFF 00173) may be applied. The spray should be applied to the final seedbed before drilling and incorporated immediately as tri-allate is a volatile chemical.

PRE-EMERGENCE IN SUGAR BEET, FODDER BEET AND MANGELS

Apply at drilling or as soon as possible after drilling. Apply before crop or weed emergence, to a fine, moist, firm and level seedbed free from clods. Pre-emergence treatments require adequate soil moisture to achieve best results, if dry soil conditions are anticipated then a pre-drilling incorporated application would be the preferred option.

POST-EMERGENCE IN SUGAR BEET (IN MIXTURE WITH PHENMEDIPHAM – REPEAT LOW DOSE APPLICATION

Apply after the crop has reached the cotyledon stage and before the weeds reach the first true leaf stage. Weed control may be slower under cold, dry conditions.

Apply 0.7 kg/ha of Better DF in mixture with 260 gm of phenmedipham from an approved formulation using an application volume of 100 l/ha of water. For best results use a spray nozzle and pressure to achieve a FINE spray (BCPC classification).

CROP SAFETY

Application of Better DF to crops under stress may give rise to a check in crop growth and/or plant loss from which the crop may not fully recover.

Crops may be under stress as a result of one or a combination of factors which include the effect of other herbicides, nutrient deficiencies, frost (before or after application), wind or insect damage.

In order to reduce the risk of crop check the following situations should be avoided.

1. Exceeding the recommended dose, particularly on sandy soils.
2. Conditions making even distribution of Better DF in the soil difficult eg. poor till or inadequate soil moisture.
3. Incorrect drilling depth.
4. Reduced seedling vigour and emergence resulting from capping or encrustation.
5. Use of high rates of nitrogen fertiliser pre-drilling. Where higher rates of fertiliser are considered necessary these should be applied not less than three weeks before drilling.
6. Application to backward crops damaged by harrowing or excessive soil consolidation.
7. Application during periods of rapidly rising temperature likely to cause a rapid and excessive uptake of Better DF by the crop.
8. Where heavy rain falls after spraying, particularly if water is left standing on the soil surface.

SUCCEEDING CROPS

Better DF persists in the soil for several weeks after application. Fields which have been sprayed but where the crop has failed may be re-drilled with sugar beet, fodder beet, mangels or maize after cultivation. They should not be drilled with any other crop.

Also refer to tri-allate label for restrictions on succeeding crops where this tank-mix has been used.

PRECAUTIONS**Operator Protection**

WEAR SUITABLE GLOVES.

WASH CONCENTRATE from skin or eyes immediately.

WASH HANDS AND EXPOSED SKIN before meals and after work.

Environmental Protection

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

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

Use appropriate containment to avoid environmental contamination.

Storage and disposal

KEEP OUT OF REACH OF CHILDREN.

EMPTY CONTAINER COMPLETELY and dispose of safely.

This material and it's container must be disposed of in a safe way.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF SUBSTANCE, PREPARATION AND COMPANY

Product name – Better DF

Use – Herbicide

Formulation type – Water dispersible granule

Supplier – Sipcam UK Limited, 3 The Barn, 27 Kneesworth Street, Royston, Herts SG8 5AB

Emergency phone no – Office 01763 212100

2. COMPOSITION/INFORMATION ON INGREDIENTS

Composition – Better DF contains 65% chloridazon

Common name – chloridazon

CAS/EC no – 1698-60-8

Hazard Symbol – N

R phrases – R50/53

Concⁿ – 65% w/w

3. HAZARDS IDENTIFICATION

Critical Hazard to man – No specific hazards.

Contains chloridazon may produce an allergic reaction.

Critical Hazard to environment – Very Toxic to aquatic environment. May cause long term adverse effects in aquatic environment.

4. FIRST AID MEASURES

General advice – Remove from source of exposure.

Remove all contaminated clothing and wash affected area.

Inhalation – Remove the individual from exposure to this product and keep well ventilated with fresh air. Keep at rest. If necessary and if breathing stops, give artificial respiration. Seek medical attention.

Skin contact – Remove contaminated clothing immediately. Wash affected area thoroughly with soap and water. Rinse with more water. Seek medical attention.

Eye contact – Rinse immediately with plenty of water for at least 15 minutes and then seek medical attention.

Ingestion – If swallowed, wash mouth thoroughly, do not induce vomiting, seek medical attention immediately.

Poisoning symptoms – Chloridazon is a pyridazinone compound. The following symptoms were recorded in laboratory animals: CNS excitement and intestinal cramps.

Treatment – No Specific antidote. Treat Symptomatically and Supportive.

Consult a Poisons Centre such as;

0171 635 9191 (National Poisons Information Service - London)
(AUTHORISED MEDICAL PRACTITIONERS ONLY)

5. FIRE FIGHTING MEASURES

Suitable extinguishing media – Fight fire with CO₂, dry chemical powder, foam or water spray (in preference to water jet).

Specific hazards – This product is not flammable but may give rise to poisonous fumes* if strongly heated. The container is combustible (*Such as carbon monoxide, nitrogen oxides and hydrochloric acid.)

Protective equipment – Wear self-contained breathing apparatus (SCBA).

Specific Methods – Cool containers with spray. Contain fire-fighting water, bunding if necessary with sand, earth, or other inert material.

6. ACCIDENTAL RELEASE MEASURES

Personal Protective Equipment – Wear protective coveralls, neoprene gloves, rubber boots and faceshield or goggles, covering as much of the body as possible.

Environmental protection – DANGEROUS TO FISH OR AQUATIC LIFE. Do not contaminate surface water or ditches with chemical or used container.

Clean up Methods – Sweep up carefully and shovel sweepings into marked bags or drums. Dispose of through a reputable local waste disposal contractor.

7. HANDLING AND STORAGE

Handling – Use Personal Protective Clothing as specified in Section 8.

Storage – KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place. Keep away from heat sources and direct sunlight.

Other

WASH CONCENTRATE from skin or eyes immediately.

WASH HANDS AND EXPOSED SKIN before meals and after work.

EMPTY CONTAINER COMPLETELY and dispose of safely.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Occupational Exposure Standard (OES) – There is no OES for this product.

Engineering measures – Where possible use a cab with a forced air filtration unit with a pesticide filter when spraying.

Personal Protective Equipment

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES* AND FACE PROTECTION (FACESHIELD) when handling the concentrate. (*neoprene or nitrile at least 0.6mm thick). WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.

Where PPE cannot be cleaned, dispose of as contaminated waste.

9. PHYSICAL AND CHEMICAL PROPERTIES

State – Granule

Density – 700-750 g/kg (uncompressed)

Colour – Beige

Odour – Light, characteristic

pH (5% in water) – 9.5 (±1)

Explosive properties – None

Flammability – Non Flammable

Vapour pressure – (air) <0.01 Pa at 20°C

Solubility – (air) Water 400 mg/l

10. REACTIVITY AND STABILITY

Stability – Stable under normal ambient conditions. Non-flammable and non-corrosive. Chloridazon acts as a photosynthetic electron flow inhibitor.

Condition to avoid – High temperatures and direct sunlight.

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀ (rat) – >2,000 mg/kg

Acute dermal LD₅₀ (rat) – >2,000 mg/kg

Acute inhalation LC₅₀ (4h, rat) – >30.8 mg/l

NOEL (2-yr feeding trials) – Rat 150 mg/kg diet (5.4 mg/kg daily)

– Mouse 500 mg/kg diet (44 mg/kg daily)

Skin Irritation – non irritant

Eye Irritation – non irritant

Sensitisation – Not known to be a sensitiser

Carcinogenicity – Quickly absorbed, metabolised and secreted without significant retention

Mutagenicity – Negative

Teratogenicity – Negative

12. ECOLOGICAL INFORMATION

Ecotoxicity

(ai) Rainbow Trout LC₅₀ 32-46 mg/l (96hr)

(ai) Daphnia magna LC₅₀ 131 mg/l (48hr)

(ai) Bees oral/contact LC₅₀ >200 ug/bee not toxic to bees

13. DISPOSAL

Contact Local Authority (Environmental Health Department) or a reputable waste disposal company for collection and disposal of unwanted product or containers.

14. TRANSPORT

UN Number –

Packaging Group –

Marine Pollutant – No

ADR/RID Classification – Not classified

IMDG/IMO Classification – Not classified

Proper shipping name – ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID N.O.S (contains chloridazon)

15. REGULATORY INFORMATION

Hazard Symbol:

N, – Dangerous for the environment

16. OTHER INFORMATION

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

Packaging

Container – 5 kg carton box or bag

Outer – 4 x 5 kg in double-wall carton