



Conservation Farming Unit

CONSERVATION FARMING & CLIMATE SMART AGRICULTURE



A Farmer's Guide to Choosing & Using Herbicides 2018

A weed-free field for high yields



Note well: This booklet is written as a farmers guide to choosing and using herbicides. Whilst a lot of time and great care has gone into the production of this training guide, the Conservation Farming Unit (CFU) does not take responsibility for any damage caused to crops by errors by the mis-application of any of the products mentioned in this guide nor for the quality of the products supplied by retailers.

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IMPORTANT FACT: You **do not need to use herbicides to practice CF**. If you are a hoe farmer you can continue to use weeding hoes. If you are a farmer with oxen you can use a **shallow cultivator**, but **do not weed with ploughs or ox ridgers. Do not ridge up during the season**. However, since many farmers are already using herbicides, this guide will help you to choose the correct herbicides to control the type of weeds you have in your fields, and to apply them safely and accurately.

16 Steps to the Safe and Successful Use of Herbicides

Step 1. Safety First

- Always read the safety instructions on the label containing the herbicide and follow them**
- Never buy or use a product that does not have the original label on it or is not factory sealed. Never transport products next to food or drinks**
- When spraying always wear long trousers, a long sleeved shirt, gumboots or heavy shoes and a hat. Rubber gloves are recommended, goggles are also recommended to protect your eyes**
- When measuring concentrated herbicides from the bottle always wear rubber gloves and eye protection**
- Never eat or smoke when spraying**
- If the sprayer develops a leak, locate the leak and fix it immediately.**
- Never blow through nozzles or filters with your mouth to clean them**
- Always store bottles containing herbicides securely, out of your house and out of reach of children**
- Never use an empty herbicide bottle for any other purpose. Wash the empty bottle in the field, make holes in it so that it cannot be used again. Dispose of it by dropping it in a pit latrine or bury it**
- After completing spraying for the day, take a bath with soap, change clothes and wash the clothes used for spraying separately from other family clothes**

Step 2: **Never** buy or use herbicides until you have been properly trained by your local CFU Farmer Coordinator (FC) or Field Officer (FO). Attend FC training sessions and learn how to use and look after a sprayer properly, how to choose the right herbicides and how to mix and apply them correctly and **safely**

Step 3: Buy a good sprayer with a **16 litre** tank. Here are the models the CFU recommends:



**JACTO XP - 16
Litre**



**JACTO HD 400 -
16 Litre**

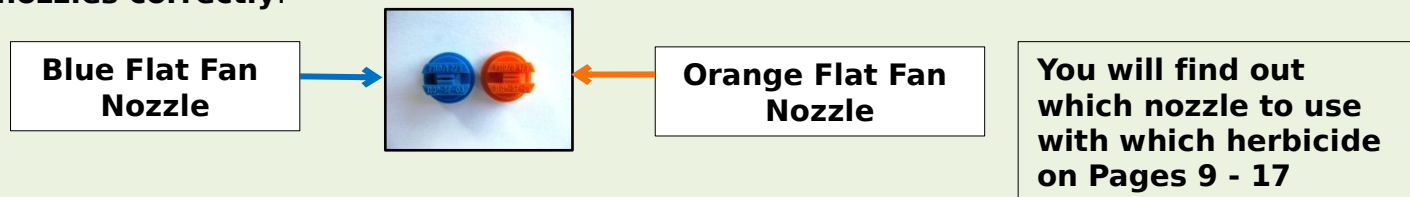


**GUARANAY - 16
Litre**



**MATABI - 16
Litre**

Step 4: Make sure you have the **correct two nozzles** to spray herbicides properly – this is very important. Also learn how to **fit the nozzles correctly**.



Step 5: There are now many herbicides on the market. Observe which are the most troublesome weeds in your field so you buy **the correct herbicide** to kill them. Know which are the correct herbicides to use on different crops.

Step 6: Learn the **names of the chemicals contained inside the herbicides** that kill the weeds. Many herbicides are sold with different names on the bottle but contain the same chemicals inside. Example – there are 100 different names for **PANADO** but they all contain the ingredient - **PARACETAMOL**. However the amount of Paracetamol contained in the pills (the concentration) can vary, so you must read the label to know how many to take. It is the same with herbicides – **read the label**.

Step 7: Before going to the shop to buy, **know the chemicals** you need to buy to kill the weeds in your field. There may be many bottles in the shop. **Do not rely on the shop keeper's advice** he may sell you the wrong herbicide which could kill your crops or not kill the weeds.

Step 8: To avoid confusion in the shop **take this booklet with you** and refer to the information provided on the pages 9 to 17. **Before going**, study the information so you understand which herbicides to look for and purchase.

Step 9: In the shop **check the label and be sure the chemicals** contained in the herbicide are the correct ones for you. To do this follow the **GUIDE** on pages 9-17

HERBICIDES THAT ARE NOT RECOMMENDED BY THE CFU

10: Learn which herbicides should be avoided and which should not be used

Because an important part of CF is **Crop Rotations** and because some chemicals are poisonous and therefore dangerous to handle, there are a number of herbicides that are not recommended by the CFU and should be avoided.

All herbicides containing the chemical **paraquat** are not recommended as this chemical is very poisonous for humans and animals.

Gramoxone	Uniquat	Afriquat	Paraquat 20%	Mupaxarone	Leader 24	Herbikill	Paraforce	Harpoon	Parasuper	Agriquat
Tanzaquat	Agropa	Parabat	GAP Paraquat 200							

All herbicides containing the chemicals **atrazine only** or **atrazine in mixture with terbutylazine** to control weeds in **maize** are not recommended because if you grow legumes or other crops in the same field in the following year they may be damaged . The following products contain either **atrazine only** or **atrazine in mixture with terbutylazine**.

Atracell	Agrazine	Atraforce	Farmizine 600C	Atrazine 500SC	Afrizine	Atraprime	Bullet	Cheetah	Scorpion
Emerald	Ballistic Gold	Rhino							

All herbicides containing the chemicals **formesafan** and **imazethapyr** to control weeds in **soya beans** and **groundnuts** are not recommended because if you grow maize in the same field the following year the crop may be damaged .

Flex	Caddy	Formesafan	Quizafom	Imax	Image	Agifomesafan	Zephyr	Imaze	Legume Weed Killer
Amplify									

There are some other products with special uses which should be used with caution if you want to rotate your crops in the following season. These products are described on page 12.

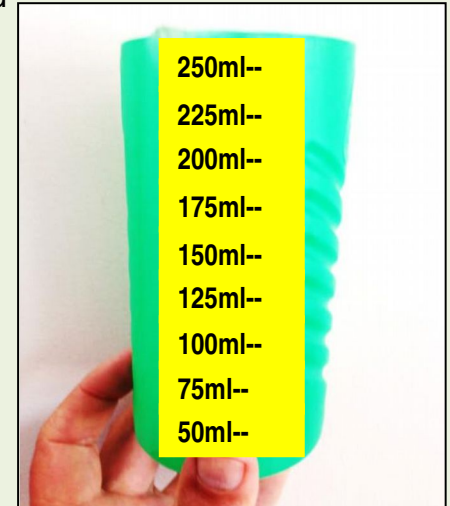
IMPORTANT ADVICE.

If the contents of any herbicide are not clearly stated on the label both in the chemicals that are in the bottle and the amount of those chemicals in either *grams (gms)* or a *percentage (%)* do not buy that product. Use this guide to find an alternative or seek advice from your CFU Field Officer.

Step 11: For diluting herbicides always use clean water. If the water is **muddy or dirty** the chemical will not work properly, the filters in your sprayer will get blocked and the pump may be damaged

Step 12: Make sure you have rubber gloves, eye protection and a good measuring jug to measure the correct amount of herbicide to mix with water in your **16 litre** sprayer tank. There are many different types and sizes of jugs from **50ml up to 1 litre or larger**, and some herbicides are supplied with small measuring cups. Whichever size you have make sure they are **marked on the side in 20ml or 25ml amounts** as shown in the picture. You should never guess how much herbicide to put in your sprayer, accuracy is essential. For the correct amount of herbicide to use follow the **guides** on pages **9 to 17**. **Never use the measuring flask for any other purpose. Wash it out with clean water when you have finished.** **Keep it out of reach of children**

Step 13: Make sure that the nozzle is fitted in the correct position, at right angles to the sprayer lance (see page 7 for an explanation of the sprayer parts).



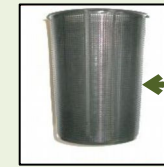
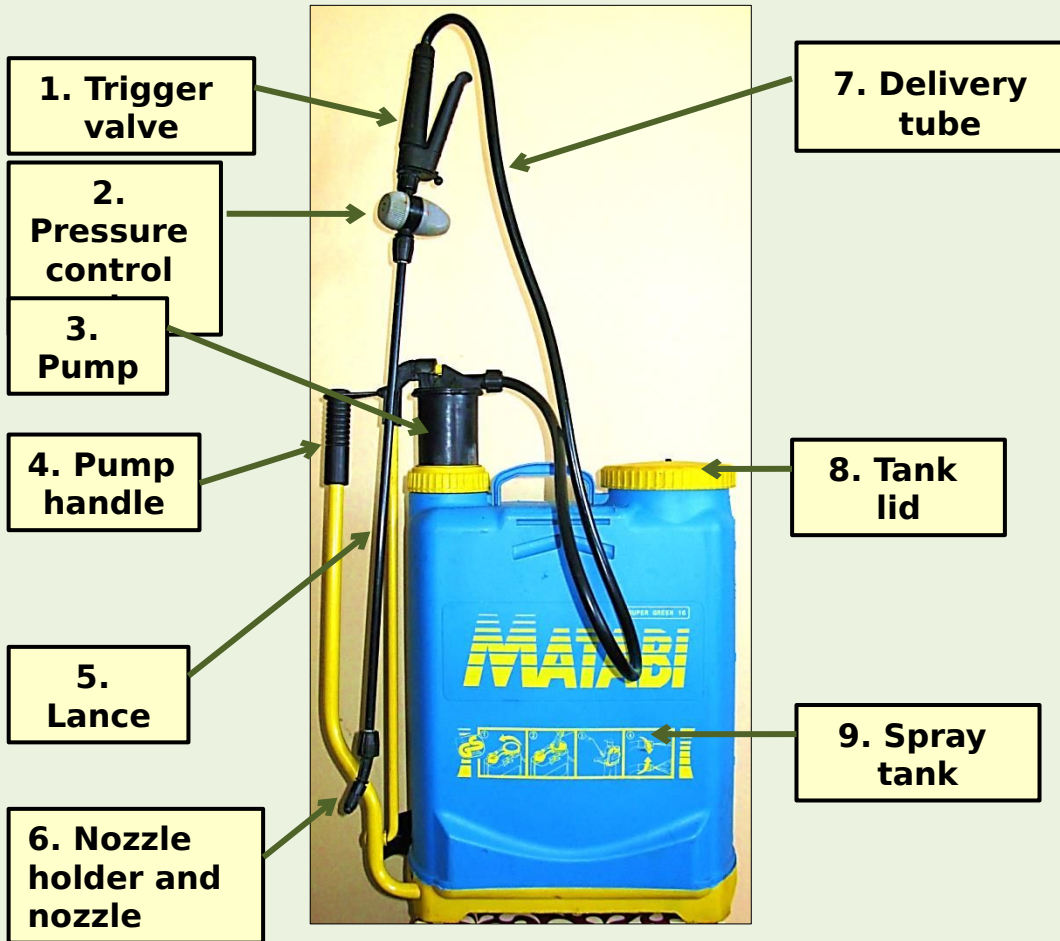
Step 14: To mix herbicide properly - **half fill tank through the filter in the lid with clean water** add the correct amount of chemical then **fill the tank with clean water to the 16 litre mark on the outside of the sprayer tank**, replace the lid and gently shake the sprayer from side to side to mix the chemical in the sprayer



Step: 15 Learn How to Maintain Your Sprayer Properly

Learn about all the parts that make your sprayer work and understand what they are for.

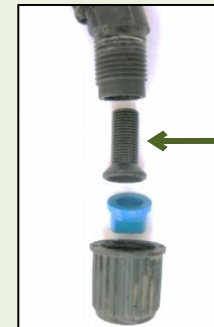
Good quality sprayers are fitted with **3 filters** to prevent the sprayer nozzle getting blocked. These should **always be kept clean**.



The first filter is a sieve and is found under the **tank lid (8)**

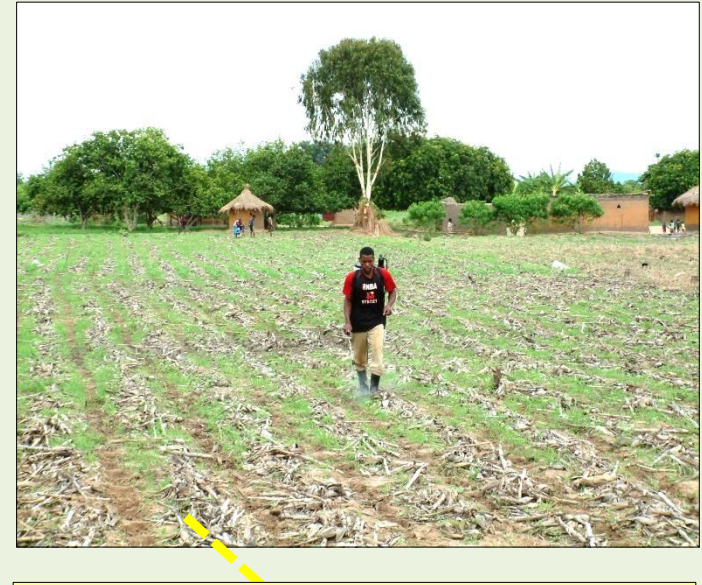
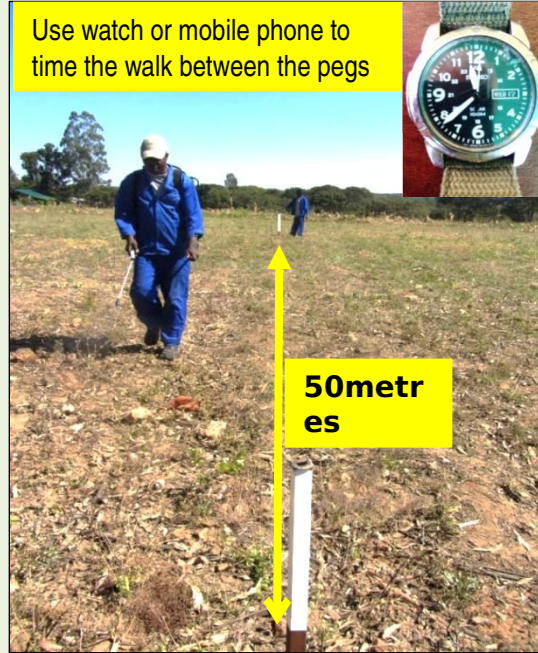


The second filter is usually found inside the **trigger valve (1)**



The third filter is situated directly behind the **nozzle (6)**. It may look as in the above photo but may also look like a small bowl.

Step 16: Learn How to Spray Properly



To achieve a good result when spraying with the **Orange** or **Blue** nozzles they should be held **50cm** above the weeds. Also the walking speed must be correct. **If you walk too fast the amount of herbicide applied may be too little and if you walk too slowly you will apply too much. Practice** until you get this right. Tie a piece of string onto the nozzle measuring **50cms** with a weight on the bottom. Place 2 pegs in the ground **50metres** apart, fill the tank with clean water and spray holding the nozzle at the correct height as you move. Get a friend to time your walk between the pegs with a watch or mobile. **Never attempt to spray any herbicide without attending training with your FC**


If you do not attend training and spray the wrong herbicides on the wrong crop or at the wrong time with a poorly maintained sprayer and get disappointing results you will only have yourself to blame.

When spraying walk down the **middle of the path** that separates the crop rows holding the nozzle **50cm** above the weeds or above the ground if you are applying a **pre-emergent** herbicide and the weeds and crop have not yet emerged, over the planting lines. Remember that this advice is for crops grown at **90cm row spacing**. Pump smoothly and continuously to maintain **Practice is essential to becoming a skilled herbicide spray operator.**

YOUR GUIDE FOR HERBICIDES TO CONTROL WEEDS



Herbicides containing the chemical *Glyphosate*

GLYPHOSATE. This chemical is used to kill weeds that have grown in the field **before** you plant. It can also be sprayed immediately after planting but only if the crop seeds have not germinated. **Never spray over crops that have emerged as *glyphosate will kill most green plants*.** The chemical kills most grasses including **kapinga** and other weeds but will **not** control **ndao** well. The best results are achieved when the weeds are fresh and green, they are not higher than **30 cms**, when there is little or no wind, and no chance rain **for 4 hours after spraying**. **Be careful of wind, if the spray blows onto a crop nearby it will be killed.** if the weeds are tall you will have to apply more chemical than shown below and it will cost you more money. ***Glyphosate* can be used before planting any crop.**

Name on the Label	Type	Litres per Ha.	Mix in 16 litre sprayer	Use Sprayer Nozzle	Advice
ROUNDUP	LIQUID	3	650 MLS	ORANGE FLAT FAN 	Products in green contain less glyphosate than those in yellow so more product/sprayer must be used.
HOCKPHOSATE	LIQUID	3	650 MLS		
GLYPHADER	LIQUID	3	650 MLS		
GLYPHON 360	LIQUID	3	650 MLS		
GUARD	LIQUID	3	650 MLS		
GLYPHOSNOW	LIQUID	3	650MLS		Products in yellow contain more glyphosate per litre so less can be used in each sprayer. However before buying calculate if 2 litres of these herbicides costs more or less than 3 litres of the herbicides shown in green!
PIRANAH	LIQUID	3	650 MLS		
TWIGASATE	LIQUID	3	650 MLS		
GLYPHOSATE	LIQUID	3	650 MLS		
WOUND OUT	LIQUID	3	650 MLS		


More Herbicides containing the chemical Glyphosate

Each year new product names for *glyphosate* appear on the market. If you are not sure how much to apply check the label. If it says **360 ACID** the rate is 3 litres/ha If it says **480 ACID** the rate is 2 litres/ha. If only the **SALT** amount is written ask the advice of your local Field Officer before buying it.

Name on the Label	Type	Litres/ Packs per Ha.	Mix in 16 litre sprayer	Use Sprayer Nozzle	Advice
CYCAT	LIQUID	2	450 MLS	ORANGE FLAT FAN 	As with any herbicides the amount required to be effective will depend on the height and type of the weeds, the skill of the operator and the conditions when the herbicide was sprayed.
AGRICELL	LIQUID	2	450 MLS		
AFRICAL	LIQUID	2	450 MLS		
GARUD	LIQUID	2	450 MLS		
GLYCEL	LIQUID	2	450 MLS		
KALACH 700	LIQUID	2	450 MLS		
TOUCHDOW N	LIQUID	2	450 MLS		
GLYPHOMA X	LIQUID	2	450 MLS		
GRANULES					
WEED ALL	GRANULES	12	1 PACKET	ORANGE FLAT FAN 	Always check that the pack label says - '1 pack in 16 litres' if this advice is missing do not buy it.
MUSCLE UP	GRANULES	12	1 PACKET		
ERASE	GRANULES	12	1 PACKET		

Herbicides containing the chemicals Atrazine and Cyanazine for control of weeds in MAIZE

ATRAZINE + CYANAZINE: This herbicide can be sprayed in maize after it has been planted but before it has emerged, or soon after the maize has emerged. For best results the weeds should not be more than 2 – 5cms tall. These herbicides are popular with farmers and often used to kill weeds that have emerged later after glyphosate application. They control several grass and broad leaved weeds (BLW's) but not **mulungwe, ndao or kapinga** and other weeds that have deep roots and those which survive the dry season each year (perennials). It should rain within 10 days of spraying these herbicides for them to perform well.

Name on the Label	Type	Litres per Ha.	Mix in 16 litre sprayer for soil type			Use Sprayer Nozzle	Check the label to confirm the chemical strength
			SANDY SOILS	MEDIUM SOILS	HEAVY SOILS		
TO GET A GOOD RESULT SOIL SHOULD BE MOIST OR WET. AVOID SPRAYING IN DRY PERIODS			SANDY SOILS	MEDIUM SOILS	HEAVY SOILS	BLUE FLAT FAN 	Every year more herbicides with the same chemicals inside but different names come on the market. Also the amount of chemical in the herbicides may change SO FOR THIS TYPE OF HERBICIDE CHECK LABEL BEFORE BUYING. The label should state either: 25% ATRAZINE 25% CYANAZINE PER LITRE or 250g ATRAZINE 250g CYANAZINE PER LITRE If the label does not state this then do not buy that product
BLAZINE	LIQUID	2.75 - 4.0	220 MLS	280 MLS	320 MLS		
ATRAPACK PLUS	LIQUID	2.75 - 4.0	220 MLS	280 MLS	320 MLS		
ATS BLAZINE	LIQUID	2.75 - 4.0	220 MLS	280 MLS	320 MLS		
MAIZE WEEDKILLER	LIQUID	2.75 - 4.0	220 MLS	280 MLS	320 MLS		
FARMAZINE	LIQUID	2.75 - 4.0	220 MLS	280 MLS	320 MLS		
EXCEL	LIQUID	2.75 - 4.0	220 MLS	280 MLS	320 MLS		
SUCCESS	LIQUID	2.75 - 4.0	220 MLS	280 MLS	320 MLS		
CYATRA	LIQUID	2.75 - 4.0	220 MLS	280 MLS	320 MLS		
INFERNO	LIQUID	2.75 - 4.0	220 MLS	280 MLS	320 MLS		
KRIMIX	LIQUID	2.75 - 4.0	220 MLS	280 MLS	320 MLS		

Post Emergent Herbicides for control of grass weeds and BLW's in MAIZE


ARMADILLO contains *sulcotrione* and *atrazine*. **SUCCEED, KOLOPA and FORCE** contain *atrazine mesotrione* and *nicosulfuron*. **LUMAX** contains *tebuthylazine, mesotrione* and *S-metolachlor*. **AUXO** contains *tembotrione, bromoxynil ocanoate, and isoxadifen-ethyl*, **BALLISTIC GOLD** contains *atrazine and mesotrione*. These products can be sprayed after the crop and weeds emerge. Armadillo, Succeed, Force and Lumax should be sprayed when the soil is moist, rain is necessary within 10 days of application for these products to work well.

Name on the Label	Type	Litres per Ha	Mix in 16l Sprayer for Soil Type			Sprayer Nozzle
			SANDY SOILS	MEDIUM SOILS	CLAY SOILS	
ARMADILLO	LIQUID	0.8 - 2.0	1.2L	1.5L	2.0L	BLUE FLAT FAN
SUCCEED	LIQUID	3	240 MLS			
FORCE	LIQUID	3	240 MLS			
KOLOPA	LIQUID	2.5 - 3	200 - 240 MLS			
LUMAX	LIQUID	Other Herbicides for the control of BLW's Only in MAIZE				
AUXO	LIQUID	Other Herbicides for the control of BLW's Only in MAIZE				
<i>2,4-D, MCPA and Bromoxynil</i> are herbicides that will kill only BLW's in maize and sorghum. Both are sprayed after the crop and weeds have emerged.						
BALLISTIC GOLD	LIQUID	2.5 - 3	100 - 240MLS			

Name on the Label	Type	Litres per Ha.	Mix in 16 litre sprayer	Sprayer Nozzle
2,4-D	LIQUID	2.0	160 MLS	BLUE FLAT FAN
MCPA	LIQUID	2.5	200 MLS	
BROMOXYNIL	LIQUID	1.5 - 2.0	120 - 160 MLS	


Selective herbicide containing the chemicals *Topramezone* and *Dicamba* for control of weeds in MAIZE

Topramezone and Dicamba This herbicide formulation (mixture) is popular with farmers and is used to spray **weeds in maize when they have already emerged**. It will control both annual grass and BLW's. Weeds will be best controlled when they have 3 – 4 leaves but will probably be controlled when taller than this but will be competing with the crop for fertilizer, water and light. Weeds treated with STELLA STAR take about 7 - 10 days to show the effects of the chemical, be patient. Do not spray over the top of the crop after the maize has reached 80cms. The weeds should not be under drought stress when applied.

Name on the Label	Type	Litres per Ha.	Mix in 16 litre sprayer	Sprayer Nozzle	Advice
STELLA STAR	LIQUID	1	80 MLS	BLUE FLAT FAN 	The soil does not need to be moist nor does Stellar need rainfall after application to work. will not control mulungwe , ndao or kapinga.

Selective herbicide containing the chemical *Mesotrione* only for control of weeds in MAIZE

MESOTRIONE: *Mesotrione* is also used after the maize and the weeds have already emerged. Weeds should be growing well and not under drought stress. These products will control some annual grass and BLW's, read the label to find out which weeds are controlled.

Name on the Label	Type	Litres per Ha.	Mix in 16 litre sprayer	Sprayer Nozzle	Advice
MESOTRIONE SC	LIQUID	0.35	30 MLS	BLUE FLAT FAN 	The soil does not need to be moist nor does <i>mesotrione</i> need rainfall after application to work. Will not control mulungwe, ndao or kapinga.
BALLISTIC SC 480G	LIQUID	0.35	30 MLS		
MESOTRIONE 480G	LIQUID	0.35	30 MLS		
ATS MESOTRIONE 480SC	LIQUID	0.35	30 MLS		
ATOM	LIQUID	0.35	30 MLS		

Herbicides containing the chemicals *Acetochlor* or *Metalochlor* for control of weeds in MAIZE

These herbicides can be sprayed on maize after it has been planted **but before it has emerged or very soon after it has emerged**. They are used in the same way as atrazine/cyanazine. *Acetochlor* will control **yellow ndao** and can be mixed with *cyanazine/atrazine* products for better weed control. **Apply when the soil is moist, rain must fall within 14 days for these products to be effective.**

ACETOCHLOR Name on the Label	Type	Litres per Ha.	Mix in 16 litre sprayer for soil type			Sprayer Nozzle	Check the label to confirm the chemical strength
TO GET A GOOD RESULT SOIL SHOULD BE MOIST OR WET. AVOID DRY PERIODS			SANDY SOILS	MEDIUM SOILS	HEAVY SOILS		<p><i>Accetochlor</i> will control annual grasses and certain BLW's in maize and <i>groundnuts</i>. These herbicides have either 900g, 750g or 500g of the chemical per litre therefore different application rates are recommended.</p> <p>Mix with <i>atrazine/cyanazine</i> products for better weed control for <u>maize only</u>.</p>
ACETOCHLOR 900g	LIQUID	0.75 – 1.8	90 MLS	120 MLS	180 MLS	BLUE FLAT FAN ↓	
JAGUAR 900g	LIQUID	0.75 – 1.8	90 MLS	120 MLS	180 MLS		
PINACLE EC	LIQUID	0.75 – 1.8	90 MLS	120 MLS	180 MLS		
BAMBO	LIQUID	0.75 – 1.8	90 MLS	120 MLS	180 MLS		
CHLOR 900EC	LIQUID	0.75 – 1.8	90 MLS	120 MLS	180 MLS		
ELTACHLOR	LIQUID	0.75 – 1.8	90 MLS	120 MLS			
HURRICANE 750g	LIQUID	0.9 – 2.0	100 MLS	150 MLS	220 MLS	↓	
SAPPHIRE 750g	LIQUID	0.9 – 2.0	100 MLS	150 MLS	220 MLS		
ACETOCHLOR 500g	LIQUID	1.4 – 3.25	160 MLS	220 MLS	320 MLS		
ACETO	LIQUID	0.7 – 3.0	60 MLS	120 MLS	240 MLS		
METALOCHLOR Name on the Label							

Herbicides containing the chemicals *S-Metolachlor* for control of weeds in MAIZE

Name on the Label	TO GET A GOOD RESULT SOIL SHOULD BE MOIST OR WET. AVOID DRY PERIODS		SANDY SOILS	MEDIUM SOILS	HEAVY SOILS	Sprayer Nozzle
DUAL MAGNUM	LIQUID	0.6 - 1.3	55 MLS	70 MLS	115 MLS	BLUE FLAT FAN
S-METOLACHLOR	LIQUID	0.6 - 1.3	55 MLS	70 MLS	115 MLS	
MAG MAX	LIQUID	0.6 - 1.3	55 MLS	70 MLS	115 MLS	
PRIDE	LIQUID	0.6 - 1.3	55 MLS	70 MLS	115 MLS	
STRIM	LIQUID	0.6 - 1.3	55 MLS	70 MLS	115 MLS	

Herbicides containing *Nicosulfuron* for the Control of Mulungwe in Maize.

These herbicides contain the chemical *nicosulfuron*. As the amount to put in each 16l sprayer is so small the manufacturer usually supplies *nicosulfuron* in a 1 sprayer sachet if not don't buy it. Spray these products after the maize and the weeds have emerged, as early as possible, when the weeds are seedlings

Name on the Label	Type	Grams per Ha.	Mix in 16 litre sprayer	Sprayer Nozzle	WARNING
MULUNGWE WEED KILLER	POWDER	60 G	4.8 G	BLUE FLAT FAN 	Do not plant groundnuts in the same area for 2 seasons after use
POSI POST	POWDER	60 G	4.8 G		


Herbicides Containing *Halosulfuron* for the Control of Yellow Ndao in Maize

These herbicides contain the product *halosulfuron*. As the amount to put in each 16l sprayer is so small the manufacturer usually supplies in a 1 sprayer sachet if not don't buy it. Spray after the maize and the ndao have emerged.


Name on the Label	Type	Grams per Ha.	Mix in 16 litre sprayer	Sprayer Nozzle	WARNING
HURRICANE	POWDER	50 G	4 G	BLUE FLAT FAN 	Do not plant soya beans or groundnuts in the same area for two seasons after use. Rain within 6 hours of application may
BRIGADIER	POWDER	50 G	4 G		
NUTGRASS KILLER	POWDER	50 G	4 G		

Selective Herbicides Containing *Fluazifop*, *Quizalofop*, *Haloxyfop* or *Cethlodim* to Control Grass Weeds in Cotton, Soya Beans, Groundnuts, Sunflower and Sugar Beans.


The following herbicides are used to control most grass weeds only in cotton, soya beans, groundnuts, beans and sunflower. They are all sprayed when the crop and the weeds have emerged. BLW's of any type **will not be killed**. Kapinga may regrow after application of **Super Grass Killer** and **Select 120 EC** these two products contain *clethodim*.


Name on the Label	Type	Litres per Ha	Mix in 16l Sprayer	Sprayer Nozzle	Advice
GRASS KILLER	LIQUID	1.0 – 3.5	80 – 280 MLS	BLUE FLAT FAN 	Use the lowest rate for selective control of most young grass weeds. Use the higher rate for selective control of mature kapinga and other perennial grass weeds.
PANTERA	LIQUID	1.0 – 3.5	80 – 280 MLS		
NOVA	LIQUID	1.0 – 3.5	80 – 280 MLS		
BLACK PANTHER	LIQUID	1.0 – 3.5	80 – 280 MLS		
PANTHER	LIQUID	1.0 – 3.5	80 – 280 MLS		
QUIZATE	LIQUID	1.0 – 3.5	80 – 280 MLS		
QUIZALOFOP	LIQUID	1.0 – 3.5	80 – 280 MLS		
QUIZAFOM	LIQUID	1.0 – 3.5	80 – 280 MLS		
HI CASE	LIQUID	1.0 – 3.5	80 – 280 MLS		
QUIKZALOFOP	LIQUID	1.0 – 3.5	80 – 280MLS		
TRIUMPH	LIQUID	1.0 – 3.5	80 – 280MLS		
FUSILADE FORT 150SC	LIQUID	0.75 – 1.5	60 – 120 MLS		
ORCA 25E	LIQUID	0.75 – 1.5	60 – 120 MLS		
MIYIDIMA	LIQUID	0.375 – 1.5	30 – 120 MLS		
SUPER GRASS KILLER	LIQUID	0.125 – 1.5	10 – 120 MLS		
SELECT 120EC	LIQUID	0.125 – 1.5	10 – 120 MLS		

Selective Herbicides Containing *Prometryn* and *Fluometuron* to Control Grass Weeds and BLW's in Cotton


Name on the Label	Type	Litres per Ha	Mix in 16l Sprayer	Sprayer Nozzle	Advice
COTTON WEED KILLER	LIQUID	3 L	240 MLS	BLUE FLAT FAN 	Apply at or just after planting
SAPPHIRE	LIQUID	3 L	240 MLS		
HERRICOTTON	LIQUID	3 L	240 MLS		

Selective Herbicides Containing *Chlorimuron* to Control BLW's in Soya Beans and Groundnuts

Name on the Label	Type	Grams per Ha	Mix in 16l Sprayer	Sprayer Nozzle	Advice
CLASSIC	POWDER	35	2.8	BLUE FLAT FAN 	DO NOT USE IN SUGAR BEANS. Mix with herbicides on page 14 to control grass weeds usually sold in a 1 sprayer sachet if not do not use
BEAN WEED KILLER	POWDER	35	2.8		
RAZOR	POWDER	35	2.8		
CHLORIMURON WDG	POWDER	35	2.8		
LABEL	POWDER	35	2.8		
CHLORIMURON ETHYL	POWDER	35	2.8		
LIMIT	POWDER	35	2.8		
Selective Herbicides Containing <i>Pendimethalin</i> to Control Grass and BLW's in Cotton, Soya Beans, Sugar Beans, Groundnuts and Maize					
REBEL 500WG	POWDER	17.5	1.4	Not available in 1 litre pack	

Name on the Label	Type	Litres per Ha	Mix in 16l Sprayer According to Soil Type			Sprayer Nozzle	Advice
			Sandy Soils	Medium Soils	Clay Soils	BLUE FLAT FAN 	Use the lower rate to control annual weeds only
PENDIMETHALIN	LIQUID	1.3 - 3.0	100 - 160 MLS	160 - 240 MLS	240 - 320 MLS		

Selective Herbicide Containing *Metribuzin* to Control Grass and BLW's in Soya Beans and Maize

Name	Type	Litres per Ha	Mix in 16l Sprayer According to Soil Type			Sprayer Nozzle	Advice
			Sandy Soils	Medium Soils	Clay Soils	BLUE FLAT FAN 	Will control most BLW's but only certain grasses
METRIBUZIN SC	LIQUID	0.6 - 0.7	50 MLS	60 MLS	-		
METRIX	LIQUID	0.6 - 0.7	50 MLS	60 MLS	-		

Selective Herbicides Containing *Bentazone* to Control BLW's and Ndao in Soya Beans, Groundnuts and Maize

Name on the Label	Type	Litres per Ha	Mix in 16l Sprayer	Sprayer Nozzle	Advice
BENTAZON WS	LIQUID	3.0 - 5.0	240 MLS - 400 MLS	BLUE FLAT FAN 	Use the higher rate for control of ndao
BASAGRAN	LIQUID	3.0 - 5.0	240 MLS - 400 MLS		
BASACROP	LIQUID	3.0 - 5.0	240 MLS - 400 MLS		

Note well: This booklet is written as a farmers guide to choosing and using herbicides. Whilst a lot of time and great care has gone into the production of this training guide, the Conservation Farming Unit (CFU) does not take responsibility for any damage caused to crops by errors that may be contained in this booklet.

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We have Officers in:

CENTRAL REGION

Chongwe, Kabwe, Kafue, Kapiri Mposhi
Mpongwe, Masaiti, Luano, Serenje,

WESTERN REGION

Shibuyunji, Mumbwa, Nkeyema,
Kaoma
Itezhi Tezhi, Kasempa, Mufumbwe,
Manyinga
Mwinilunga,

SOUTHERN REGION

Chikankhata, Mazabuka, Monze,
Pemba, Namwala, Kazungula,
Siavonga, Gwembe, Kalomo, Choma,
Zimba

EASTERN REGION

Nyimba, Petauke, Sinda, Katete,
Chipata, Lundazi, Chadiza, Vubwi,
Mambwe, Chama



Conservation Farming Unit

CONSERVATION FARMING & CLIMATE SMART AGRICULTURE

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