



**CORTEVA**<sup>TM</sup>  
agriscience

**ZYPAR**

**HERBICIDE**



**GROUP O B HERBICIDES**

Product Registration Number: MAPP 17938

An oil dispersion formulation containing 5 g/L florasulam + 6.25g /L halauxifen-methyl (present as 6 g/litre halauxifen-methyl acid) and 6 g /L of cloquintocet-mexyl (safener).

Arylex<sup>TM</sup> is the commonly used name of halauxifen-methyl active substance.

A post-emergence herbicide for use on a variety of winter cereals (wheat, durum wheat, spelt, barley, rye, triticale, oats and these crops under sown with grass) and spring cereals (wheat, durum wheat, barley rye and these crops under sown with grass) for the control of a wide range of broad leaved weeds

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

**READ DIRECTIONS FOR USE ON ATTACHED LEAFLET.**

**PROTECT FROM FROST.  
SHAKE WELL BEFORE USE.**

Pack size: 250 mL to 20.0 Litres

**Authorization Holder:**

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This label is compliant with the CPA Voluntary Initiative Guidance.



SPECIMEN

## **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.

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

DO NOT BREATHE SPRAY.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

WASH CONCENTRATE from skin and eyes immediately.

WASH HANDS AND EXPOSED SKIN before eating and drinking, and after work.

### **Environmental protection:**

DO NOT CONTAMINATE WATER with the product or its container. Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads.

To protect aquatic organisms respect an unsprayed buffer zone to surface water bodies in line with LERAP requirements.

DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5 m of the top of the bank of a static or flowing water body, unless a Local Environment Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 1 m of the top of a ditch which is dry at the time of application. Aim spray away from water.

This product qualifies for inclusion within the Local Environment Risk Assessment for Pesticides (LERAP) scheme. Before each spraying operation from a horizontal boom sprayer, either a LERAP must be carried out in accordance with CRD's published guidance or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for three years.

Extreme care must be taken to avoid spray drift onto non-crop plants outside of the target area.

### **Storage and disposal:**

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

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

DO NOT RE-USE CONTAINER for any purpose.



**ZYPAR®**

**Warning**

**Causes skin irritation**

**May cause an allergic skin reaction**

**Causes serious eye irritation**

**Very toxic to aquatic life with long lasting effects**



Wear protective gloves/clothing/eye/face protection.

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

**To avoid risks to human health and the environment, comply with the instructions for use**

SPECIMEN

**IMPORTANT INFORMATION.**

FOR USE ONLY AS AN PROFESSIONAL HERBICIDE

| <b>Crops</b>  | <b>Maximum Individual Dose</b> | <b>Maximum Total Dose</b>              | <b>Latest Time of Application</b>                  |
|---|--------------------------------|--|--|
| Barley, Barley (undersown with grass), Wheat, Wheat (undersown with grass), Rye, Rye (undersown with grass), Triticale (Winter), Triticale (Winter, undersown with grass), Spelt, Spelt (undersown with grass), Durum wheat, Durum wheat (undersown with grass) | 1.0 litre product per hectare  | 1.0 litre product per hectare per crop | June 30 <sup>th</sup> (up to and including BBCH45) |
| Oat (winter), Oat (Winter, undersown with grass).   | 0.5 litre product per hectare  | 0.5 litre product per hectare per crop | May 31 <sup>st</sup> (up to and including BBCH 32) |

**Other Specific Restrictions:**

One application of ZYPAR per season.

The total amount of halauxifen-methyl applied to a winter cereal crop must not exceed 14.04 g/ha (13.5 g a.e/ha of halauxifen-methyl). For autumn sown crops the maximum total must not exceed 7.8 g/ha (7.5 g a.e/ha of halauxifen-methyl) between first leaf unfolded (BBCH11) and 31<sup>st</sup> December. For any applications involving halauxifen-methyl made between January 1<sup>st</sup> and flag leaf swollen (BBCH 45) the maximum total dose of halauxifen-methyl applied must not exceed 6.24g/ha (6 g a.e/ha). A minimum interval of 3 months between applications of products which contain halauxifen-methyl must be respected.

For autumn planted crops a maximum total dose of 3.75 g of florasulam must be observed for applications made between crop emergence in the year of planting and February 15<sup>th</sup> in the year of harvest. The total amount of florasulam applied to a cereal crop must not exceed 7.5 g.

**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.**

## **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.

### **GENERAL INFORMATION**

ZYPAR is mainly absorbed through the foliage of the target weeds. The ideal timing is when the weeds are small and actively growing.

Do not treat crops under stress. Stress can be caused by many factors including frost, drought, water logging, trace element deficiency, disease and pest attack etc. ZYPAR can sometimes induce slight and transient (2-3 weeks) crop yellowing. This has no impact at all to the yield.

When applying ZYPAR to spelt, transient growth inhibition and chlorosis may be observed; however, it should have no adverse effect on yield.

Do not apply to crops containing or undersown with clover or any legume containing mixtures. Do not roll or harrow 7 days before or after application.

### **WEED RESISTANCE**

ZYPAR is a product containing Arylex™ (halauxifen-methyl) active substance and florasulam. It also contains a safener (cloquintocet-mexyl). Arylex™ is a member of the arylpicolinate family of synthetic auxins (Group “O” according to HRAC classification) and the risk of resistance developing to this active is low. Florasulam belongs to the triazolopyrimidine (Group B, HRAC classification) and as an ALS inhibitor there is a risk of resistance building to this active ingredient, therefore precautions should be taken to minimize the risk.

The following resistance risk strategies are advised:

1. Do not rely on a single mode of action.
2. Avoid the repeated use of florasulam
  - a. where resistance to other ALS inhibitors has developed
  - b. and to species which are considered high risk species for the ALS herbicides such as Common Poppy and employ alternation or mixtures with herbicides with another mode of action.
3. Follow label recommendations concerning rates and timing of application. Use ZYPAR in a way to maximise control of high risk/difficult to control weed species.
4. Consider the use of cultural control and crop rotation to help control prevent development of resistance biotypes

### **SOIL**

ZYPAR may be used on all soil types.

## **CROPS**

ZYPAR can be used on a variety of winter cereals (wheat, durum wheat, spelt, barley, rye, triticale and oat) and spring cereals (wheat, durum wheat, barley and rye) for the control of broad leaf weed species.

Zypar can be used on a variety of winter cereals (wheat, durum wheat, spelt, barley, rye triticale and oat) and spring cereals (wheat, durum wheat, barley and rye) under sown with grass for the control of broad leaf weed species.

ZYPAR can be used in cereals grown for seed and malting barley.

## **TIMING**

### **Winter sown cereal**

ZYPAR can be applied from September 1<sup>st</sup> to the following crops; wheat, durum wheat, spelt, barley, rye, triticale (and these crops under sown with grass) from BBCH 11 (first leaf unfolded) up to BBCH 45 (flag leaf sheath swollen). The latest calendar date for application is 30<sup>th</sup> June.

Zypar can be applied September 1<sup>st</sup> when winter oat and winter oat (under sown with grass) is at BBCH 13 (third leaf unfolded) up to BBCH 32 (Second node detectable). The latest calendar date for application is 31<sup>st</sup> May.

### **Spring sown cereals**

ZYPAR can be applied from February 15<sup>th</sup> when the crop is at BBCH 13 (three leaves unfolded) up to BBCH 45 (flag leaf sheath swollen) for all cereal types (except oats), including cereals under sown with grass. The latest calendar date for application is 30<sup>th</sup> June.

The ideal timing for application is when the weeds are small and actively growing. However, some highly susceptible species can be controlled at advanced growth stages for rescue treatments (e.g. cleavers and red deadnettle).

### **Undersown cereal crops**

ZYPAR may be applied to wheat, barley, winter oats, rye, durum wheat, spelt and winter triticale crops undersown with grass. Application should be made when the grasses have started tillering (GS 21) and when weeds are actively growing.

## RATES OF USE, WEED SUSCEPTIBILITY AND MAXIMUM SIZE CONTROLLED

For autumn sown crops the maximum total dose must not exceed 0.75 L/ha when applied from September 1<sup>st</sup> to February 14<sup>th</sup> and 1.0 L/ha when applied from February 15<sup>th</sup> to June 30<sup>th</sup>.

### Application rates and timing for autumn applications (September 1st to February 14<sup>th</sup>) to winter cereals:

| Weed species                          | Recommended rate L/ha | Timing crop                                  | Maximum growth stage controlled            | Susceptibility |
|---------------------------------------|-----------------------|--|--|----------------|
| Volunteer oilseed rape                | 0.75                  | From first leaf unfolded to end of tillering | 7 true leaf stage<br>2-10 cm diameter      | S              |
| Cleavers                              | 0.75                  | From first leaf unfolded to end of tillering | 2 true leaf stage<br>2-6 cm diameter       | S              |
| Red dead-nettle                       | 0.5                   | From first leaf unfolded to end of tillering | 2 true leaf stage<br>2-3 cm diameter       | S              |
| Scented mayweed,<br>Scentless mayweed | 0.75                  | From first leaf unfolded to end of tillering | 4 side shoots visible<br>1-2.5 cm diameter | S              |
| Common poppy                          | 0.75                  | From first leaf unfolded to end of tillering | 6 side shoots visible<br>5 cm diameter     | S              |
| Common chickweed                      | 0.75                  | From first leaf unfolded to end of tillering | 3 side shoots visible<br>1-10 cm diameter  | S              |
| Ivy-leaved speedwell                  | 0.75                  | From first leaf unfolded to end of tillering | 2 true leaf stage<br>1-2 cm diameter       | S              |



**Application rates and timing for spring applications (February 15<sup>th</sup> to June 30<sup>th</sup>) to winter cereals:**

| Weed species                          | Recommended rate L/ha | Timing crop                                       | Maximum growth stage controlled         | Susceptibility |
|---------------------------------------|-----------------------|---|---|----------------|
| Volunteer oilseed rape                | 0.75                  | From 3 leaves unfolded to second node detectable. | First flowers visible<br>3-30 cm height | S              |
| Shepherd's purse                      | 0.5                   | From 3 leaves unfolded to second node detectable. | First flowers visible<br>4-35 cm height | S              |
| Creeping thistle                      | 1.0                   | From 3 leaves unfolded to second node detectable. | 40 cm height                            | R              |
| Common fumitory                       | 0.5                   | From 3 leaves unfolded to second node detectable. | Full flowering<br>2-22 cm height        | S              |
| Common hemp-nettle                    | 1.0                   | From 3 leaves unfolded to second node detectable. | 3-10 cm height                          | MS             |
| Cleavers                              | 0.75                  | From 3 leaves unfolded to second node detectable. | First flowers open<br>11-40 cm height   | S              |
| Small-flowered cranesbill             | 0.5                   | From 3 leaves unfolded to second node detectable. | 12-25 cm diameter                       | S              |
| Red dead-nettle                       | 0.5                   | From 3 leaves unfolded to second node detectable. | Full flowering<br>5-18 cm height        | S              |
| Scented mayweed,<br>Scentless mayweed | 1.0                   | From 3 leaves unfolded to second node detectable. | 2-12 cm height                          | S              |
| Common poppy                          | 1.0                   | From 3 leaves unfolded to second node detectable. | 10 cm diameter                          | S              |
| Common chickweed                      | 1.0                   | From 3 leaves unfolded to second node detectable. | Full flowering<br>2-25 cm height        | S              |

**Application rates and timing for spring applications (February 15<sup>th</sup> to June 30<sup>th</sup>) to spring cereals**

| Weed species | Recommended rate L/ha | Timing crop                                       | Maximum growth stage controlled | Susceptibility |
|--------------|-----------------------|---|---------------------------------|----------------|
| Fat-hen      | 1.0                   | From 3 leaves unfolded to second node detectable. | 3-15cm height                   | S              |

| Weed species                          | Recommended rate L/ha | Timing crop                                       | Maximum growth stage controlled       | Susceptibility |
|---------------------------------------|-----------------------|---|---------------------------------------|----------------|
| Cleavers                              | 0.75                  | From 3 leaves unfolded to second node detectable. | 4-20 cm height                        | S              |
| Common fumitory                       | 0.5                   | From 3 leaves unfolded to second node detectable. | 6 true leaf stage<br>4-7 cm height    | S              |
| Dead-nettles                          | 0.5                   | From 3 leaves unfolded to second node detectable. | 8 true leaf stage<br>2-10 cm height   | S              |
| Scented mayweed,<br>Scentless mayweed | 1.0                   | From 3 leaves unfolded to second node detectable. | 4-20 cm height                        | S              |
| Black bindweed                        | 1.0                   | From 3 leaves unfolded to second node detectable. | Flower buds visible<br>3-24 cm height | S              |
| Common chickweed                      | 0.75                  | From 3 leaves unfolded to second node detectable. | 1-15cm diameter                       | S              |

Rescue treatment for cleavers to be applied to the crop from third node detectable to flag leaf sheath swollen (winter and spring cereals) and no later than the 30<sup>th</sup> June.

| Weed species | Recommended rate L pr/ha | Timing crop  | Maximum growth stage controlled       | Susceptibility |
|--------------|--------------------------|--|---------------------------------------|----------------|
| Cleavers     | 1.0                      | From third node detectable to flag leaf sheath swollen | Beginning of flowering<br>Up to 90 cm | S              |

For best results apply ZYPAR to young weeds which will respond quicker when treated at early stages. Vigorous crop competition enhances control of the difficult to control weeds.

## JOINT APPLICATION

A joint application is the use of a product in tank mixture or sequence with another product.

**IMPORTANT NOTE:** Joint applications should only be made within the label recommendations of every product in the application.

Only one other product with an ALS inhibitor mode of action may be applied to a cereal crop treated with ZYPAR. However a further application of another product containing florasulam may also be made **providing the maximum total dose of florasulam is not exceeded**<sup>1</sup>.

ZYPAR may be applied in joint application to the same cereal crop with one of the following ALS products<sup>1</sup>:

|                            |                         |
|----------------------------|-------------------------|
| Alias                      | Hatra                   |
| Alias SX                   | Hiatus                  |
| Ally Express               | Horus                   |
| Ally Max SX                | Hunter <sup>1</sup>     |
| Ally SX                    | Hussar                  |
| Answer SX                  | Jubilee SX              |
| Atlantis OD                | Kalenkoa                |
| Atlantis WG                | Lorate                  |
| Avocet                     | Mozaic SX               |
| Avro SX                    | Nevada <sup>1</sup>     |
| Barton WG <sup>1</sup>     | Octavian                |
| Biplay SX                  | Omnera LQM              |
| Boudha                     | Pacifica                |
| Boxer <sup>1</sup>         | Palio <sup>1</sup>      |
| Broadway Star <sup>1</sup> | Parana                  |
| Broadway Sunrise           | Pennant                 |
| Calibre SX                 | Pinnacle                |
| Chimera SX                 | Presite SX              |
| Concert SX                 | Provalia LQM            |
| Cleancrop Mondial          | Quantum                 |
| Dakota <sup>1</sup>        | Quantum SX              |
|                            | Ratio SX                |
| DP 911 SX                  | Refine Max SX           |
| DPX-R7U12*                 | Savvy Premium           |
| Ergon                      | Seduce                  |
| Finish SX                  | Simba SX                |
| Galaxy <sup>1</sup>        | Slalom <sup>1</sup>     |
| Gartrel <sup>1</sup>       | Spitfire <sup>1</sup>   |
| GF-184 <sup>1</sup>        | Starane XL <sup>1</sup> |
| Gropper SX                 | Taxi                    |
| Hamlet                     | Thor                    |
| Harmony M SX               | Traton SX               |
| Harmony SX                 | Triad                   |

\* Under evaluation as COP 2017/00956

<sup>1</sup> The maximum total dose of florasulam applied to the crop must not exceed 7.5 g. For autumn planted crops a maximum total dose of 3.75 g of florasulam, must be observed for applications made between crop emergence in the year of planting and February 15<sup>th</sup> in the year of harvest.

Apart from these specific joint applications ZYPAR must NOT be applied with any other product containing an ALS-inhibitor, for example amidosulfuron or triasulfuron.

## **WEATHER CONDITIONS**

ZYPAR can be used in cold or warm (from 2 to 25 °C), humid or dry conditions. In severe drought conditions there can be a slight reduction in efficacy.

## **RAINFASTNESS**

ZYPAR is rainfast one hour after application.

## **WATER VOLUME**

Using standard or low drift nozzles the recommended spray volume is 100 to 400 litres of water per hectare. The lowest water volume should only be used in open crops on small weeds. On later applications where the crop is dense, the spray volume should be increased to 200-400 litres water per hectare. The minimum recommended pressure is 2 to 3 bars.

For undersown cereal crops, it is recommended to use a minimum spray volume of 150 litres of water per hectare.

## **CROP FAILURE**

In the event of a crop failure after a crop has been treated with ZYPAR, consider all herbicides used on the treated field before deciding which new crop to sow.

### Autumn applications

In case of a crop failure after an autumn application of ZYPAR at 0.75 L/ha, it is possible to sow the following spring crops, with no cultivation restrictions:

- 1 month after application (no cultivation restrictions): Spring wheat, Spring barley, Maize, Ryegrass
- 3 months after application (after ploughing): Spring Oilseed rape, Field beans, Peas, Sunflower

### Spring applications

In case of a crop failure after a spring application of ZYPAR at 1.0 L/ha, it is possible to sow:

- 1 month after application (no cultivation restrictions): Spring wheat and Spring barley
- 2 months after application (after ploughing): Maize

## **FOLLOWING CROPS**

After an application of ZYPAR there are no restrictions for sowing any succeeding crop after the cereal harvest. However, for sensitive species such as soybean, clover, lentils or sunflower ploughing is recommended prior to drilling.

## **ADJACENT CROPS**

ZYPAR is of low volatility and is therefore not subject to vapour drift.

Avoid spray drift onto non-target crops.

Particular care should be taken to avoid spray drift onto susceptible crops e.g. vines, orchards, sunflower, oil seed rape, legumes, vegetable crops, ornamentals, flax, sugar beet, potatoes etc.

Do not spray in windy weather or only if the wind speed is less than or equal to 3 on the Beaufort scale (i.e. a maximum of 19 km/hour) and a temperature not exceeding 25 ° C in the shade.

Apply only with a boom sprayer and use suitable nozzles for herbicides. Use a spray pressure as low as possible and a low height with respect to the treated vegetation, while ensuring the good spray distribution.

The use of low drift nozzles is recommended.

## **MIXING**

Half fill the spray tank with water and add the required amount of ZYPAR. Fill up the spray tank, agitating continuously to ensure thorough mixing, and maintain agitation until spraying is complete. Use only clean water for mixing.

## **SPRAY QUALITY**

Apply ZYPAR as a MEDIUM spray as defined by the BCPC system.

## **TANK MIXTURES**

Where tank mixes are used, and unless directed otherwise, the preferred order of addition of products to the spray tank is as follows: water dispersible granules, wettable powders, suspension concentrates (flowables), emulsifiable concentrates, solution concentrates. Each product should be added to the half-full sprayer and be fully dispersed before the addition of the next product.

## **TANK CLEANING**

To avoid subsequent injury to crops other than cereals (wheat, durum wheat, spelt, barley, rye, triticale), all spraying equipment must be thoroughly cleaned both inside and out using All Clear Extra spray cleaner at 0.5 % v/v or bleach containing 5 % hypochlorite as follows:

1. Immediately after spraying thoroughly and completely rinse all internal surfaces.
2. Rinse inside of tank with clean water and flush through booms and in-line strainers using at least one tenth of the spray tank volume. Drain tank completely.
3. Fill tank with clean water (minimum 10% of tank capacity) and add tank cleaner at the recommended rate and agitate for 15 minutes. Flush the boom and hoses and drain tank completely.
4. Nozzles and filters should be removed and cleaned separately with a tank cleaner at the recommended rate.
5. Rinse the tank with clean water and flush through the boom and hoses using at least one tenth of the spray tank volume. Drain tank completely.

6. For disposal of washings, follow Code of Practice for Using Plant Protection Products. Do not spray onto sensitive crop or land intended for cropping with sensitive crop.
  1. **Note:** If it is not possible to drain the tank completely, step 3 must be repeated before going onto step 4.

## **COMPANY ADVISORY INFORMATION**

This section is not part of the Product Label under the Plant Products Regulations 1995, and provides additional advice on product use at the discretion of Corteva Agriscience

## **TRADEMARK ACKNOWLEDGEMENTS**

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## **CORTEVA AGRISCIENCE CONDITIONS OF SUPPLY**

All goods supplied by us are of high grade and we believe them to be suitable but, as we cannot exercise control over their storage, handling, mixing or use, or the weather conditions before, during or after application which may affect the performance of the goods, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded. No responsibility will be accepted by us or re-sellers for any failure in performance, damage or injury whatsoever arising from their storage, handling, application or use. These conditions cannot be varied by our staff or agents whether or not they supervise or assist in the use of such goods.