Wing-P® - A flexible herbicide for maize

Crop
Forage and Grain maize

Main use
Control of broad-leaved weeds and annual grasses pre- or early post emergence

Active ingredients
212.5 g/l dimethenamid-p + 250 g/l pendimethalin

Formulation
EC

Max dose rate
4 l/ha

Timing of application
Pre-emergence and from 1 leaf up to and including 4th leaf stage (GS 10 to GS 14)

Water volume
200-400 litres per hectare

LERAP
B

Flexible application timings
Pre-emergence, Post-emergence from 1 leaf to 4 leaves

Excellent residual activity
PDF reliability, plus additional activity of DMTA-P on key weeds. Potential to add tank mix partner

Contents

Wing-P® a flexible herbicide for maize ................................................................. 03
BASF trials ........................................................................................................ 04
Wing-P® additional activity Vs Stomp Aqua .................................................... 04
Post-emergence ............................................................................................... 04
Forage maize and grain maize weed spectrum ........................................... 06
Wing-P® has a very broad window of application giving excellent flexibility on farm ..... 07
The effect of later post-emergence herbicides on yield of grain maize .................. 09
Effect of delaying early post-emergence weed control on yield of grain maize ............ 09
Late emerging weed populations can cause significant impact on yield of grain maize .... 10
The best approach - control weeds pre-emergence ........................................ 11
Wing-P® - flexibility with tank mix partners .................................................. 11
Summary ......................................................................................................... 11
BASF trials
Wing-P® - additional activity Vs Stomp Aqua Pre-emergence

01 Groundsel
02 Annual Meadowgrass
03 Black Nightshade
04 Shepherd’s Purse
05 CFSpeedwell
06 Orache
07 Pale Persicaria
08 Redshank
09 Scentless Mayweed
10 Fat Hen
11 Chickweed
12 Red Deadnettle
13 Small Nettle
14 Fat Hen
15 Charlock Cleavers

Are pre-emergence herbicides worthwhile in maize?
Pre-emergence herbicide reliability is often questioned in dry conditions. Post-emergence applications are considered very effective but yield potential of the crop can suffer.

Wing-P® provides the flexibility to spray either pre or post-emergence, with confidence that the residual activity will keep weeds at bay.

BASF trials
Wing-P® Vs Stomp Aqua Post-emergence

01 Annual Meadowgrass
02 Groundsel
03 Orache
04 Redshank
05 Pale Persicaria
06 Cleavers
07 Chickweed
08 Black Nightshade
09 Scentless Mayweed
10 Small Nettle
11 Charlock

3.3 l/ha Stomp Aqua delivers 1500 g/ha pdm.
4.0 l/ha Wing-P delivers 1000 g/ha pdm + 850 g/ha DMTA-P.
3.3 l/ha Stomp Aqua delivers 1500 g/ha pdm.
Forage maize and grain weed spectrum

<table>
<thead>
<tr>
<th>Weed Name</th>
<th>Pre-emergence 4.0 l/ha</th>
<th>Post-emergence 4.0 l/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Meadowgrass</td>
<td>S</td>
<td>S to 2 lvs</td>
</tr>
<tr>
<td>Black Bindweed</td>
<td>S</td>
<td>S to 2 lvs</td>
</tr>
<tr>
<td>Black Nightshade</td>
<td>S</td>
<td>S to 3 lvs</td>
</tr>
<tr>
<td>Charlock</td>
<td>S</td>
<td>S to 2 lvs</td>
</tr>
<tr>
<td>Common Chickweed</td>
<td>S</td>
<td>S to 4 lvs</td>
</tr>
<tr>
<td>Common Poppy</td>
<td>MS</td>
<td>–</td>
</tr>
<tr>
<td>Common Orache</td>
<td>S</td>
<td>MS to 2 lvs</td>
</tr>
<tr>
<td>Corn Marigold</td>
<td>S</td>
<td>–</td>
</tr>
<tr>
<td>Fat Hen</td>
<td>S</td>
<td>S to 2 lvs</td>
</tr>
<tr>
<td>Field Forget-me-not</td>
<td>MS</td>
<td>–</td>
</tr>
<tr>
<td>Field Pansy</td>
<td>MS</td>
<td>–</td>
</tr>
<tr>
<td>Groundsel</td>
<td>MS</td>
<td>R</td>
</tr>
<tr>
<td>Hemp-nettle (Day Nettle)</td>
<td>S</td>
<td>–</td>
</tr>
<tr>
<td>Henbit Dead Nettle</td>
<td>S</td>
<td>–</td>
</tr>
<tr>
<td>Knotgrass</td>
<td>S</td>
<td>S to 2 lvs</td>
</tr>
<tr>
<td>Pale Persicaria</td>
<td>S</td>
<td>–</td>
</tr>
<tr>
<td>Parsley Piert</td>
<td>S</td>
<td>–</td>
</tr>
<tr>
<td>Red Dead Nettle</td>
<td>S</td>
<td>–</td>
</tr>
<tr>
<td>Redshank</td>
<td>S</td>
<td>S to 2 lvs</td>
</tr>
<tr>
<td>Scarlet Pimpernel</td>
<td>S</td>
<td>–</td>
</tr>
<tr>
<td>Scented Mayweed</td>
<td>S</td>
<td>S to 2 lvs</td>
</tr>
<tr>
<td>Shepherd’s Purse</td>
<td>S</td>
<td>S to 2 lvs</td>
</tr>
<tr>
<td>Smooth Sowthistle</td>
<td>MS</td>
<td>–</td>
</tr>
<tr>
<td>Speedwells</td>
<td>S</td>
<td>S to 2 lvs</td>
</tr>
<tr>
<td>Volunteer Oilseed Rape</td>
<td>S</td>
<td>–</td>
</tr>
</tbody>
</table>

Key weeds in maize
Black Nightshade
Fat Hen
Groundsel
Orache

Other problem weeds
Black Bindweed
Chickweed
Knotgrass
Mayweed
Pale Persicaria
Redshank
Sow Thistle

Wing-P® has a very broad window of application giving excellent flexibility on farm

Current herbicide options, both pre and post-emergence, may have restrictive application timings. The trend towards earlier sowing is leading to more pre-emergence herbicide usage.

Many maize growers use contractors to spray crops - this often means that herbicides are applied in sub-optimal conditions as the contractor has come back at a later date. Wing-P® provides flexibility on the application timing, which allows good weed control to be achieved whenever the product is applied as well as excellent residual activity to keep weeds at bay for longer.

A flexible application window
• Helps avoid possible herbicide damage to crop
• Weather delays are less critical
• Wide application window means poor seedbeds can be avoided
• Ease of use
• Excellent crop safety
• Pre-emergence and post-emergence from 1 to 4 leaves
• Can be applied with a tan mix partner (not a label recommendation)

Wing-P® pre-emergence and from 1-4 leaves
Additional flexibility allows application pre and/or post-emergence according to weed burden or when soil condition suits.
The effect of later post-emergence herbicides on yield of grain maize

Delaying post-emergence weed control can significantly reduce maize plant growth rates as a result of competition. The impact increases rapidly as weed control is delayed past early crop emergence.

<table>
<thead>
<tr>
<th>Days after planting</th>
<th>Maize Growth Stage</th>
<th>Dry weight (g/plant)</th>
<th>Reduction in growth due to weed competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>2 leaf</td>
<td>0.7</td>
<td>0 (0)</td>
</tr>
<tr>
<td>36</td>
<td>4 leaf</td>
<td>9.7</td>
<td>70</td>
</tr>
<tr>
<td>43</td>
<td>5 leaf</td>
<td>16.1</td>
<td>87</td>
</tr>
</tbody>
</table>

Source: Early-season Weed Competition in Corn: Professor R. Hartzler, Dept of Agronomy, Iowa State University.

Delaying post-emergence weed control can significantly reduce yield potential. Early weed control is vital to maximise yield potential in both grain and forage maize. Wing-P® early weed control ensures maize yield is maximised.

The effect of early post-emergence weed control on yield of grain maize

Delaying early weed control may significantly reduce yield potential. Early weed control is vital to maximise yield potential in both grain and forage maize. Wing-P® early weed control ensures maize yield is maximised.

<table>
<thead>
<tr>
<th>Weedy period</th>
<th>Yield (t/ha)</th>
<th>% Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 leaf</td>
<td>14.4</td>
<td>100</td>
</tr>
<tr>
<td>0-4 leaf</td>
<td>12.6</td>
<td>88</td>
</tr>
<tr>
<td>0-6 leaf</td>
<td>12.4</td>
<td>88</td>
</tr>
<tr>
<td>0-8 leaf</td>
<td>12.9</td>
<td>89</td>
</tr>
<tr>
<td>Whole season</td>
<td>9.5</td>
<td>66</td>
</tr>
</tbody>
</table>

Late emerging of weed populations can cause significant impact on yield of grain maize

<table>
<thead>
<tr>
<th>Weed control period (Maize GS)</th>
<th>Yield (t/ha)</th>
<th>Yield (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>From 0 – to 4 leaf</td>
<td>10.4</td>
<td>72</td>
</tr>
<tr>
<td>0-6 leaf</td>
<td>11.7</td>
<td>82</td>
</tr>
<tr>
<td>0-8 leaf</td>
<td>12.5</td>
<td>87</td>
</tr>
<tr>
<td>0-10 leaf</td>
<td>13.4</td>
<td>94</td>
</tr>
<tr>
<td>0-12 leaf</td>
<td>14.4</td>
<td>100</td>
</tr>
</tbody>
</table>


Early weed control is vital but maintaining long term control is equally important in both grain and forage maize. Keeping crops weed free requires good residual activity. Wing-P® - long residual activity ensured yield is maintained.

Herbicide timing: Pre-emergence benefit even in dry conditions

Pre-emergence applications offer reliable control even in dry seasons.

The best approach - control weeds pre-emergence

Wing-P® - the importance of a good herbicide
Early weed control essential to maximise yield

To minimise yield loss:
Low infestation should be removed before the 4 leaf stage of the crop. Moderate to heavy weed infestation should be removed earlier.

Wing-P® post-emergence benefits
- Can be applied up to and including 4 leaves
- Excellent residual activity
- Control weeds past the latest timings of post-emergent contact herbicides
- Not essential to ensure all weeds have emerged
- Easy application timing
- Can be mixed with contact partner to control larger weeds or to broaden weed spectrum

Flexibility with tank mix partners:
- Calaris
- Callisto
- Samson Extra 6%
- Titus
- Jester
- Templier

Note: tank mixes tested at full label rates only. Crop effects noted from tank mix comparable to individual partner product if applied alone.

Wing-P® post-emergence with Jester, Templier and Calaris may result in some crop effects. These are physical compats only.

Wing-P® - flexibility with tank mix partners

<table>
<thead>
<tr>
<th>Tank mix partner</th>
<th>Improved control post emergence</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Calaris</td>
<td>Oracle, Groundsel, OSR</td>
</tr>
<tr>
<td>+ Callisto</td>
<td>OSR, Groundsel</td>
</tr>
<tr>
<td>+ Templier</td>
<td>Oracle, (Groundsel)</td>
</tr>
<tr>
<td>+ Jester</td>
<td>Nettle, Orache, Dock, Perennial Sowthistle</td>
</tr>
<tr>
<td>+ Samson extra 6%</td>
<td>Perennial Grassweeds, Ryegrass, Cereals, (Couch)</td>
</tr>
</tbody>
</table>

Ensure all product labels are followed, no liability is accepted for crop safety when these mixes are used.

Summary
- Wing-P® gives excellent, broad spectrum weed control pre and post-emergence
  - Wing-P® gives very useful flexibility on farm
    - Pre-emergence and from 1 true leaf up to and including 4 leaves
    - Tank mix partners
    - Controls important weeds
- DMTA-P - an excellent partner for pendimethalin
  - Complementary solubility and soil adsorption
  - Increased activity on key weeds
  - Broad weed spectrum
  - Excellent residual activity
  - Control late emerging weeds beyond latest application timing of contact herbicides
Wing-P® A Flexible Herbicide for Maize

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USE PLANT PROTECTION PRODUCTS SAFELY. ALWAYS READ THE LABEL AND PRODUCT INFORMATION BEFORE USE.

For further information with regard to the warning phrases and symbols for these products please refer to the product labels. Wing-P® is a registered trademark of BASF. Wing-P® contains Pendimethalin and Dimethenamid-P.