Herbicide Application Timing

Don W. Morishita
Introduction

✔ Application timing is based on:
  ✔ Weed presence and growth stage
  ✔ Crop growth stage
  ✔ ‘Beyond our control’ factors
    ✔ Weather conditions
    ✔ Soil moisture conditions
    ✔ Availability of applicator
Absorption of Sulfosulfuron Over Time

Absorption (%)

Time (hrs)

Wheat  J. goatgrass  Wild oat  Downy brome

Absorption (%)

0 10 20 30 40 50 60

6 21 10 11 20

24 39 19 24 37

96 49 42 29 29

Olson, et al., Weed Sci. 47:37-40
Glyphosate Uptake - C. Lambsquarters

Young, et al. Weed Science, 51:151–156
Broadleaf Herbicides

- Quelex [2, 4]
- Talinor [6, 27]
- Huskie [6, 27]
- Orion [2, 4]
- Pulsar [4]
- Spartan Charge [14]
- Sharpen [14]
- Starane Ultra [4]
- Starane Flex [2, 4]
- Starane NXT [4, 6]
- Affinity BroadSpec [2]
- Bronate [4, 6]
- Clarity [4]
- 2,4-D [4]
Quelex

- Halauxifen-methyl & florasulam
- Wheat, barley, triticale- 2 leaf to flag leaf emergence.
- Broadleaf weeds- 2 to 4 lf or <4 inches tall
- Weeds- mustards, lambsquarters, weak on kochia
- Rotation restrictions

0.75 oz/A & NIS at 0.2-0.5% v/v or COC or MSO at 0.5-1% v/v
Crop Rotation Restrictions

<table>
<thead>
<tr>
<th>Crop</th>
<th>Rotation Interval (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley, wheat, triticale</td>
<td>0</td>
</tr>
<tr>
<td>Field and sweet corn, oats, grasses</td>
<td>3</td>
</tr>
<tr>
<td>Alfalfa, dry bean, peas</td>
<td>9</td>
</tr>
<tr>
<td>Potato, sugar beet</td>
<td>15</td>
</tr>
</tbody>
</table>
Talinor

- Bicyclopyrone & bromoxynil
- Co-packed with CoAct+ additive. Also add COC or NIS
- Wheat and barley- 2 lf to pre-boot stage
- Broadleaf weeds- 1 to 6 lf, depending on species
- Mustards, kochia, lambsquarters, R. thistle

13.7 to 18.2 fl oz/A w/ CoAct+ and COC at 1% v/v
## Crop Rotation Restrictions

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<tbody>
<tr>
<td></td>
<td>13.7 fl oz</td>
</tr>
<tr>
<td>Field corn</td>
<td>0</td>
</tr>
<tr>
<td>Barley, wheat, sweet corn</td>
<td>1</td>
</tr>
<tr>
<td>Potato, triticale, alfalfa</td>
<td>9</td>
</tr>
<tr>
<td>Dry bean (varies by classss)</td>
<td>9-12</td>
</tr>
<tr>
<td>Sugar beet</td>
<td>15</td>
</tr>
</tbody>
</table>
Spartan Charge

- Sulfentrazone & carfentrazone
- Spring wheat only- post plant pre-emergence application
- Application must be within 3 days after planting
- Targets Russian thistle and kochia
- Do not use on soils with <1.5% o.m. and pH >7.6

3.8 to 7.6 fl oz/A
Sharpen

- Saflufenacil
- Apply preplant or pre-emergence to barley or wheat.
- Will control small emerged weeds
- Provides control of weeds after application

1 to 2 fl oz/A
Wild Oat Herbicides

- Axial [1]
- Axial Star [1, 4]
- Beyond [2] (Clearfield wheat)
- Discover [1] (wheat only)
- Far-Go or Avadex MA [8]
- GoldSky [2, 4] (wheat only)
- PowerFlex [2, 4] (wheat only)
- PerfectMatch [2, 4] (wheat only)

- Wolverine Advanced [1, 6, 27]
Cheatgrass (Downy Brome) Herbicides

- Metribuzin [5] (suppression only)
- PowerFlex HL [2, 4]
- Maverick [2]
- Far-Go [8]
Axial XL

- Wild oat - 1 to 6 leaf stage on main stem, before 4th tiller.
- Barnyardgrass & foxtail sp - 1 to 5 leaf stage on MS, before 3rd tiller.
- Barley, spring wheat (except Durum), & winter wheat - 2 leaf to pre-boot stage.
Axial Star

16.4 fl oz

- Wild oat- 1 to 6 leaf stage on main stem, before 4th tiller.
- Barnyardgrass & foxtail sp- 1 to 5 leaf stage on MS, before 3rd tiller.
- Barley, spring wheat (except Durum), & winter wheat- 2 leaf to pre-boot stage.

Will also control kochia, prickly lettuce and sunflower
Discover NG

- Wild oat- 1 to 6 leaf on main stem (prior to emergence of 4th tiller)
- Foxtail sp.- 1 to 5 leaf on main stem (prior to emergence of 3rd tiller)
- Sp. and w. wheat- 2 leaf to pre-boot.
- Do not apply in fall

12.8 fl oz MSO @ 0.25% (optional)
Wolverine

1.7 pt/A

- Wild oat, foxtail sp, barnyardgrass- 1 leaf to 2 tiller stage.
- Broadleaves- 1 to 6 lf depending on species
- Barley- emergence to 5 lf stage.
- Wheat- emergence to 70 days before harvest.
Far-Go and Avadex MA

1 to 1.5 qt/A or 14 to 17 lb/A

- Wild oats- apply preplant or post-plant and incorporate
- Downy brome- same. Highest rate needed.
- Avadex MA for spring wheat or spring barley only.
Beyond

- Can only be used with Clearfield spring or winter wheat.
- Apply after wheat initiate tillers, but before jointing.
- Wild oats- 1 to 5 lf, up to 2 tillers.
- Broadleaves- <3 inches tall.
- Only herbicide that will selectively control feral (cereal) rye (1 to 4 lf).

Spring wheat: 4 to 5 fl oz/A
Winter wheat: 4 to 6 fl oz/A
# Crop Rotation Restrictions

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<tr>
<td>Dry beans, peas</td>
<td>0</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>3</td>
</tr>
<tr>
<td>Non-Clearfield wheat</td>
<td>3 or 15&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Corn</td>
<td>8.5</td>
</tr>
<tr>
<td>Barley, potato</td>
<td>9 or 18&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Sugar beet</td>
<td>26</td>
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<sup>a</sup> >10” ppt or irrigation and >6.2 pH = 3 months, <10” or <6.2 pH = 15 mos.

<sup>b</sup> >18” ppt or irrigation and >6.2 pH = 9 months, <18” or <6.2 pH = 18 mos.
GoldSky

Wheat (including spring and durum)- 3 leaf to jointing stage.

Wild oat- 2 leaf to 2 tiller stage.

Also some broadleaf weeds

Has some rotation restrictions.

16 fl oz + 0.25-0.5% NIS + AMS optional when stressed.
Crop Rotation Restrictions

Soil pH >6 and >16 inches rainfall and/or irrigation

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<td>Barley, field &amp; sweet corn, grasses, oats, alfalfa, canola, dry bean, pea, sugar beets, potatoes*</td>
<td>10</td>
</tr>
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<td>Other crops</td>
<td>12</td>
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*Potatoes may be planted 10 months later only if soil pH is uniformly ≥6 and rainfall and/or irrigation is >16 inches*
Wheat (including spring and durum)- 3 leaf to jointing stage.

Wild oat- 2 leaf to 2 tiller stage.

Broadleaf weeds 2 inches tall or in diameter

Has some rotation restrictions.
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<tr>
<td>Potato, pea and broadleaf crops grown for seed</td>
<td>18</td>
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Power Flex HL

Use in winter wheat & triticale.
Apply 3.5 oz/A in fall or spring from 3' if to jointing for control of
downy brome (fall), wild oats and broadleaf weeds.
Use NIS @ 1-2 qt/100 gal., COC @ 1-1.25 gal/100 gal., or MSO @
1 gal/100 gal.

Be aware of rotation restrictions.
10 months for potatoes.
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Outrider or Maverick

- Use on spring or winter wheat.
- Downy brome- fall PRE or POST at the 2 to 3 lf stage. Spring apps less effective, but allowed up to 5 tillers.
- Wild oat- up to jointing
- Broadleaves- some mustards
- Use a NIS at 0.25 to 0.5% v/v

0.66 oz/A & NIS 0.5% v/v
Summary

✓ Read labels carefully for proper application timing.
✓ Be aware of the timing for the crop.
✓ Be aware of the timing for the weeds.
Questions?

✓ See PNW Weed Management Handbook
✓ Specific herbicide labels for more information

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