Managing Field Bindweed in Field Crops and Vegetables

CWSS
January 22, 2015

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Current methods provide varying degrees of field bindweed control management, which haven’t really changed much over time:

➢ Diligent management
➢ Cultural practices
  - sanitation
  - flooding
  - tillage
  - crop competition and crop rotation
➢ Herbicides + cultural + mechanical
Sanitation (preventative measures)
- cleaning tillage, harvest, and other equip.
- certified seed
- control along fence lines, ditches, etc.
- spot manage small patches/new patches

Flooding (no water - no flooding)
- growing rice for three years
- helpful to reclaim saline soils
- probably not much impact on seed
Tillage

- Deep plowing (better for seed burial)
- Repeated cultivation in shallow soils
  - 4” deep
  - 12 days after emerge
  - 2-3 week intervals
  - 18” deep with reclamation blades may help to reduce cultivations
Crop Competition

- Fall-seeded crops (small grains, alfalfa)
- Tall spring forage crops (sudan, sorghum)
- Crop competition + cultivation + herbicides
  - corn and grain sorghum
- Crop rotation to corn or wheat
Herbicides (in-crop)

- More effective in field corn, sorghum, or cotton than in melons, onions, peppers, or tomatoes.
  - dicamba or 2,4-D in corn
  - glyphosate with hooded sprayer in cotton
  - glyphosate over-the-top of RR corn and cotton at 5-20” tall
Herbicides (in-crop)

- Some selected vegetables like tomato
  *(Stoddard, Lanini, Sosnoskie)*

Lanini

*Ungreated*

*Matrix POST @ 0.03 lb/ac*
# Herbicides (in-crop)

Table 1. Field bindweed, other weeds, and crop phytotoxicity ratings* as affected by additional herbicide treatments in processing tomatoes (harvest ratings not shown). WSREC, 2012.

<table>
<thead>
<tr>
<th>Herbicide Treatment and Use Rate:</th>
<th>Incorporation</th>
<th>Application date</th>
<th>May 30 Bindweed</th>
<th>BL (1) Grass (2)</th>
<th>crop phyto</th>
<th>June 14 Bindweed</th>
<th>BL</th>
<th>Grass</th>
<th>crop phyto</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Matrix (2 oz) post and again at 20 days</td>
<td>water</td>
<td>May 11 &amp; 30</td>
<td>5.0</td>
<td>2.0</td>
<td>0.0</td>
<td>0.0</td>
<td>4.8</td>
<td>0.5</td>
<td>0.0</td>
</tr>
<tr>
<td>2 Shark (2 fl oz) post + 20 days</td>
<td>none</td>
<td>May 11 &amp; 30</td>
<td>5.0</td>
<td>4.8</td>
<td>0.0</td>
<td>2.0</td>
<td>4.3</td>
<td>2.8</td>
<td>0.5</td>
</tr>
<tr>
<td>3 Matrix (2 oz) + Sandea (1 oz/A), post</td>
<td>water</td>
<td>May 11 &amp; 30</td>
<td>4.5</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>4.5</td>
<td>0.5</td>
<td>0.0</td>
</tr>
<tr>
<td>4 Treflan (1 lb) pre + Treflan (1 lb) at layby</td>
<td>mechanical</td>
<td>Apr 24 &amp; May 30</td>
<td>3.8</td>
<td>0.5</td>
<td>0.0</td>
<td>0.3</td>
<td>2.3</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>5 Treflan (1 lb) + Dual Magnum (1.5 pints/A) PPI mechanical</td>
<td>24-Apr</td>
<td></td>
<td>4.3</td>
<td>0.3</td>
<td>0.0</td>
<td>0.8</td>
<td>7.8</td>
<td>0.5</td>
<td>0.0</td>
</tr>
<tr>
<td>6 Untreated, hand weeded control**</td>
<td>---</td>
<td>---</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Average

LSD 0.05

CV, %

**Stoddard**
Herbicides (in-crop)

- Pre-harvest (RU @ 2 pt, then Shark @ 2oz)
  - gave 45 days control
  - improved harvest time by 15-20 min/acre
Herbicides (soil fumigation)

- Methyl bromide
  - expensive, so may be better for small areas

- Telone II
  - roots with buds; seeds ready to sprout
  - 30-60 gpa at 16-20” deep

- Metam
  - roots with buds; seeds ready to sprout
  - 25-50 gpa at 4” deep
Herbicides (fallow/after crop)

- Glyphosate and/or dicamba or 2,4-D - can fit going into cereals
- Plant-back issues - can damage cotton, tomato, others
- Bindweed condition - water-stressed, insect damage, mildew, etc.
Herbicides (fallow/after crop)

- High rates of glyphosate (4-5 lb a.i./acre) - condition of water (pH and hard water)
High rates of glyphosate plus undercutting to delay bindweed
Herbicides (long-term clean-up)

- Non-crop herbicides
  - Telar, Garlon, Oust, etc.
  - plant-back issues
SUMMARY

- Field bindweed is difficult to eradicate because of its extensive root system and long-lived seeds.

- Elimination of new and small colonies at the beginning will save a great deal of expense later.

- Field bindweed can be managed by a combination of sanitation, crop competition, frequent and thorough tillage, flooding when feasible, and herbicides.

- The best method of management depends on which best fits the farmer’s cropping pattern, soil type, equipment, philosophy, and patience.