Life after Bladex in Sweet Corn

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Although Bladex had its faults -

**Bladex provided:**
- Good preemergence broadleaf weed control
- Rotational crop options
- Atrazine alternative
Broadleaf herbicide options in sweet corn?

6 preemergence active ingredients labeled + atrazine

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Labeled Products</th>
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<tbody>
<tr>
<td>Alachlor</td>
<td>Lasso, Micro-Tech, Bullet, Lariat</td>
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<tr>
<td>Dimethenamid-P</td>
<td>Outlook, G-Max Lite</td>
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<tr>
<td>S-metolachlor</td>
<td>Cinch, Dual II Magnum, Bicep Lite II Mag, Cinch ATZ Lite</td>
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<tr>
<td>Pendimethalin</td>
<td>Pendimax/Prowl</td>
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<tr>
<td>Atrazine</td>
<td>Aatrex, others</td>
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<tr>
<td>Simazine</td>
<td>Princep, others</td>
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</tbody>
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EPTC (Eradicane) & Butylate (Sutan+)?
Preemergence Herbicide Options

Preemergence grass herbicides

**Acetamides**
- Alachlor Lasso, Micro-Tech
- Dimethenamid-P Outlook
- S-metolachlor Cinch, Dual II Magnum

=pigweed and nightshade control=

**Dinitroanilines**
- Pendimethalin Pendimax/Prowl

=pigweed and lambsquarters control, velvetleaf suppression=
Preemergence Broadleaf Options

Atrazine and Simazine (Princep)
Excellent crop safety
Good to excellent small-seeded broadleaf control
  pigweed*, lambsquarters*, nightshade, common ragweed, smartweed
Fair large-seeded broadleaf weed control
  velvetleaf*, giant ragweed

Limitations
Resistant weeds* Atrazine prohibitions
Crop rotation restrictions
Rotational Restrictions

Atrazine

“Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-weeded small grains, or small-seeded legumes and grasses the year following application, or injury may occur.”

No winter wheat after sweet corn

Corn, soybeans and sorghum following spring
Rotational Restrictions

**Atrazine**

Safe rotations to certain vegetable crops are likely with the low atrazine rates used in WI

Atrazine label modifications not likely until atrazine special review is completed – fall 2003
Rotational Restrictions

**Simazine** (Princep)

Same rotational crop statement as atrazine

Only corn can be planted the following year if rate is higher than 6 pt/a (3 lb ai/a)

Soybeans can be planted the following year if rate is less than 6 pt/a

- use tillage
- not on calcareous soils (high pH)
Management Options

Triazine resistance
  pigweed – tank mix with pre grass herbicide
  lambsquarters – tank mix with pendimethalin or treat post with Aim (3”) or Basagran (2”)

Rotational restrictions
  - expand rotation to include soybeans or corn
  - shift to 2-pass program, cultivate

Atrazine prohibition areas
  - use simazine
  - shift to 2-pass program, cultivate
Postemergence Herbicide Options

**Broadcast**
- Nicosulfuron
- Atrazine
- Bentazon
- Bentazon + atrazine
- Carfentrazone
- Halosulfuron
- 2,4-D

**Directed**
- Ametryne
- Paraquat

Accent
Aatrex, others
Basagran
Laddok S-12
Aim
Permit, Sandea
many
Evik
Gramoxone Max
Postemergence Herbicide Options

**Broadcast**

- Nicosulfuron Accent
  - primarily grass herbicide, not Bladex replacement
- Atrazine Aatrex, others
  - limitations previously discussed
- Bentazon Basagran
  - safe, weak on lambsquarters, pigweed, ragweed, nightshade
- Bentazon+atrazine Laddok S-12
  - good weed control, only oats prohibited as rotational crop on calcareous soils
**Postemergence Herbicide Options**

**Broadcast**

- **Carfentrazone**
  - Aim
  - Good to excellent on velvetleaf, lambsquarters, pigweed, nightshade, weak on ragweed
  - Risk of injury “responsibility of user”
  - Drop nozzles preferred, avoid dew or rain, nozzles 18” over corn

- **Halosulfuron**
  - Permit, Sandea
  - Injury risk, weak on lambsquarters and nightshade

- **2,4-D**
  - Many
  - Risk of brittle stalks

**Directed herbicides** require equipment and height differential
Future Options

Mesotrione - broadleaf herbicide

- Callisto – mesotrione, postemergence
- Camix – Dual II Magnum + mesotrione preemergence
  
  18 month rotation to alfalfa, peas, snap beans, and other vegetable crops
- Lumax – Dual II Magnum + atrazine + mesotrione preemergence

Potential sweet corn labels in 2004

Diflufenzopyr + dicamba (Distinct)
potential sweet corn label in 2004
Future Options – Resistant Sweet Corn?

**Liberty Link**
- genetically engineered resistance
- international markets and consumer concerns

**Clearfield technology**
- resistance to Lightning (imazethapyr + imazapyr) (Pursuit + Arsenal)
- postemergence grass and broadleaf control
- not genetically engineered, corn mutation found through tissue culture
- ALS resistant weeds, rotations
Conclusion

No immediate answers or “silver bullets” for broadleaf weed control in sweet corn in 2003

With additional planning and management changes, broadleaf weed control is possible

Help may be on the way