Cover Crop Decision Tree

Are you planting cover crops by Sept. 15?

- **YES**
  - Are you overseeding cover crops into standing cash crops?
    - **NO**
    - See “Drilled/planted before Sept. 15” column on back side for recommendations.
    - **YES**
      - Will the following crop be corn grain?
        - **YES**
          - Can you apply ~30 lbs of your total nitrogen program at planting or early side-dress?
            - **YES**
            - Option 1: Choose an overwintering species like cereal rye, winter wheat or winter triticale. Plan to apply 30-40 lbs of your total nitrogen program at planting to ensure good corn yields.
            - **NO**
              - Option 2: Overseed a diverse winterkill mix if by Sept. 15. See “Aerial or High Clearance Overseeded” column on back
        - **NO**
      - Option 1: Be sure to terminate an overwintering cover crop when it is no more than 7-8 in. tall if nitrogen application at early sidedress or at planting isn’t possible. See seeding recommendations on back for more info.
      - **NO**
        - Option 2: See “Aerial or High Clearance Overseeded” column on back for winterkill options. Make sure to overseed by Sept. 15.

- **NO**
  - Are you using full width fall tillage or double disk manure application?
    - **YES**
      - Consider strip tillage, spring tillage or low disturbance application to reduce cover crop damage.
      - It’s unlikely a winterkill cover crop will survive high disturbance.
      - An alternative option is: chase tillage equipment with cover crop planting equipment if fall tillage is planned.
    - **NO**
      - **YES**
        - Will the following crop be corn grain?
          - **YES**
            - Can you apply ~30 lbs of your total nitrogen program at planting or early side-dress?
              - **YES**
                - Option 1: Choose an overwintering species like cereal rye, winter wheat or winter triticale. Plan to apply 30-40 lbs of your total nitrogen program at planting to ensure good corn yields.
                - **NO**
                  - Option 2: Overseed a diverse winterkill mix if by Sept. 15. See “Aerial or High Clearance Overseeded” column on back
              - **NO**
                - Option 1: Be sure to terminate an overwintering cover crop when it is no more than 7-8 in. tall if nitrogen application at early sidedress or at planting isn’t possible. See seeding recommendations on back for more info.
                - **NO**
                  - Option 2: See “Aerial or High Clearance Overseeded” column on back for winterkill options. Make sure to overseed by Sept. 15.
# Seeding Rate Recommendations

based on pure live seed (PLS)

<table>
<thead>
<tr>
<th></th>
<th>Drilled/planted before Sept. 15</th>
<th>Aerial or High-clearance overseeded ~Aug. 15-Sept.15</th>
<th>Drilled/planted after Sept. 15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Small Grains</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter cereal rye*</td>
<td>~55 lb/ac</td>
<td>60-75 lb/ac</td>
<td>60-75 lb/ac</td>
</tr>
<tr>
<td>Winter triticale**</td>
<td>~55 lb/ac</td>
<td>60-75 lb/ac</td>
<td>60-75 lb/ac</td>
</tr>
<tr>
<td>Winter wheat**</td>
<td>~55 lb/ac</td>
<td>60-75 lb/ac</td>
<td>60-75 lb/ac</td>
</tr>
<tr>
<td>Winter barley***</td>
<td>~60 lb/ac</td>
<td>60-75 lb/ac</td>
<td>X</td>
</tr>
<tr>
<td>Oats***</td>
<td>~60 lb/ac</td>
<td>60-75 lb/ac</td>
<td>X</td>
</tr>
<tr>
<td><strong>Cool-season grass</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual ryegrass**</td>
<td>~15 lb/ac</td>
<td>~20 lb/ac</td>
<td>X</td>
</tr>
<tr>
<td><strong>Brassicas (must be planted with grasses)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rapeseed**</td>
<td>3-4 lb/ac</td>
<td>4-6 lb/ac</td>
<td>X</td>
</tr>
<tr>
<td>Brown mustard***</td>
<td>3-4 lb/ac</td>
<td>4-6 lb/ac</td>
<td>X</td>
</tr>
<tr>
<td>Oilseed radish***</td>
<td>3-4 lb/ac</td>
<td>4-6 lb/ac</td>
<td>X</td>
</tr>
<tr>
<td>Turnips***</td>
<td>3-4 lb/ac</td>
<td>4-6 lb/ac</td>
<td>X</td>
</tr>
<tr>
<td><strong>Legumes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hairy vetch**</td>
<td>15-20 lb/ac</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Common vetch**</td>
<td>15-20 lb/ac</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Winter lentil**</td>
<td>50 lb/ac</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Winter pea**</td>
<td>60 lb/ac</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

When using a mixtures be sure to check applicable seeding rates or talk to your retailer.
* = should not winterkill ** = could winterkill *** = will winterkill  X = not recommended for this time and planting

If receiving cost-share through government programs, please see USDA-NRCS Agronomy Technical Note 38: Cover Crop Management at tinyurl.com/IANRCS38CCRecs for NRCS recommended rates.

If growing cover crops for livestock forage, use upper range of seeding rates and see: tinyurl.com/PFICornHerb-CC-Grazing and tinyurl.com/PFISoyHerb-CC-Grazing

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## Cover Crops and Heat Units

Legumes and brassicas need more heat units than small grains to be effective.

The number of heat units (base 50°F) remaining in Iowa declines dramatically throughout the month of September:

- **After Aug. 1:** 1,385
- **After Sept. 1:** 707
- **After Oct. 1:** 246

Source: Iowa Environmental Mesonet

## Minimum Germination Soil Temperatures

- **Cereal rye:** 34°F
- **Other small grains:** 38°F
- **Annual ryegrass:** 40°F
- **Mustard/Rapeseed:** 40°F
- **Turnip/Radish:** 45°F
- **Vetches:** 60°F
- **Lentils/Pea:** 41°F

Source: Midwest Cover Crops Field Guide; 2nd Edition