Starting Seeds Indoors

Spring Fever Garden Forums
North Dakota State University
April 4, 2016

Why start seeds indoors?

- Expands the variety of vegetables, flowers and herbs in your garden
- Instant and fuller crop stands
- Earlier blooms and harvests

When to sow?

- Last frost date
- Growth rate of plant
- Desired date to transplant
  - Frost tolerance

‘Orange Blaze’

Last Frost Dates

<table>
<thead>
<tr>
<th>City</th>
<th>Last frost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fargo</td>
<td>May 10</td>
</tr>
<tr>
<td>Bismarck</td>
<td>May 12</td>
</tr>
<tr>
<td>Grand Forks</td>
<td>May 09</td>
</tr>
<tr>
<td>Minot</td>
<td>May 17</td>
</tr>
<tr>
<td>Dickinson</td>
<td>May 15</td>
</tr>
<tr>
<td>Jamestown</td>
<td>May 13</td>
</tr>
<tr>
<td>Williston</td>
<td>May 10</td>
</tr>
</tbody>
</table>

http://davesgarden.com/guides/freeze-frost-dates
Sowing Dates

Using last frost date of May 12

<table>
<thead>
<tr>
<th>Plant</th>
<th>Sowing Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broccoli/cabbage</td>
<td>March 10–24</td>
</tr>
<tr>
<td>Tomato/pepper</td>
<td>March 31–April 14</td>
</tr>
<tr>
<td>Cucumber/squash</td>
<td>April 28–May 5</td>
</tr>
<tr>
<td>Snapdragon</td>
<td>March 3–17</td>
</tr>
<tr>
<td>Marigold</td>
<td>March 24–April 7</td>
</tr>
<tr>
<td>Zinnia</td>
<td>April 7–14</td>
</tr>
</tbody>
</table>

Media

- Use a seed starter mix
  - Peat moss, compost and perlite
- Potting soil is acceptable
- Do not use topsoil or garden soil

Temperature

- Warm temps (70–80°F) promote germination
  - Seedling heat mats
  - Avoid windowsills
- Room temps are sufficient after germination

Moisture

- Keep media moist but not wet
  - Wrung-out sponge
- Drainage is critical
- Use water at room temperature

Lighting

- Light quantity—not quality—is key
- Beware of leaning, slender plants

Damping Off
Fertilization

- Seeds provide enough food until true leaves appear
- Soluble fertilizers
  - Half-strength, weekly
- Pale plants are hungry; browning on edges suggest burning

Tray Culture

Trays

**Advantages**
- Easy to fill
- Easy to move
- Maximize plant density
- Reusable

**Disadvantages**
- Root-bound plants
- Transplant shock
- Must sterilize when reused
- Not eco-friendly
Biodegradable Pots

Advantages
- Eco-friendly
- Less transplant shock

Disadvantages
- Costly
- Lower plant densities
- Root-bound plants

Hardening
- Prepares plants for outdoors
- Partly shaded, sheltered spot.
- Gradually increase outdoor exposure and decrease watering.
- Transplant on cloudy, calm day.

‘Celebrity’
‘Mountain Fresh Plus’

‘Blush’ Artisan

‘Ace’
Starting Seeds Indoors

Photo Credits

This presentation is provided freely and for information purposes only.

Photos of seed starting supplies and ‘Blush’ tomato are from Johnny’s Selected Seeds. The photo of damping off was made available by Gerald Holmes, California Polytechnic State University at San Luis Obispo, Bugwood.org. Photos of selected cultivars are from the National Garden Bureau and All-America Selections. Other photos used in this presentation were downloaded at www.flickr.com and made available under Creative Commons licenses specified by the photographers: Dwight Sipler, anneheathen, Jennifer, Chiot’s Run, Nat Ireland, Thomas Hawk, Matt, **Mary** and Tom Kalb.

Questions?

Tom Kalb