Getting the Most out of your Alliums
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Onion basics

- Biennial monocot.
- Concentric, swollen leaf bases.
- Axillary buds form at the base of each leaf.
- Hollow leaves emerge from inside the previously formed leaf.
- Bulbing is determined by photoperiod and temperature.
- Bulb size and rate of bulb development depends on plant size at bulbing.
Formation of storage organs in response to photoperiod

**Classification**
- Day neutral
- Long day (short night)
- Short day (long night)

**Vegetable crop**
- Carrots, beets, turnips, radishes
- Onions, garlic
- Potatoes, sweet potatoes, yams, cassavas

**Onion types**

- American: pungent, 2-3” diam., globe shaped that stores well.
- European: Bermuda and Spanish types
  - Spanish: mild, 4-5” diam., round that are used for the fresh market and ring processing.
  - Bermuda: mild and adapted to southern latitudes for winter production. Poor for storing.
- F1 hybrids – more vigorous and uniform than open-pollinated cvs, but have limited adaptation.
Other classifications

- Skin color: red, white, yellow
- Taste: mild, pungent
- Shape: round, flat, globe
- Minimum photoperiod: short day (12-13 hr), intermediate day (13-14 hr), long day (14-16 hr).
  - Short and intermediate day cultivars require long growing season (180 days).

Sets vs. Seed

- Higher vigor in less favorable spring conditions
- Consistent stand establishment
- Earlier maturing, shorter growing season

Sets | Seed
Direct seeding

• Usually double rows with 8-12” between rows.
• Seed planted 0.25-1” deep.
• Seed germinates at soil temp. above 35 F (75 F is optimum).
• Need to plant as early as possible.

Transplants

• Need 8-9 wks in a greenhouse.
• Care to avoid vernalization.
• Costly, so used mainly for early market or late maturing (Spanish) in northern states.
Sets

• Use sets < 0.5" diam.
• Larger sets used for green onions.
• 3-4 wks earlier than seeded onions.

Cultural practices

• Spacing
• Weed control
• Water
  – 1”/wk during seedling stage
  – 1.5”/wk during bulbing stage
  – stop when tops start to fall over
• Fertility
  – 10-20-10 ½ cup/10 ft row incorporated before transplanting
  – 34-0-0 ½ cup/10 ft row every 2-3 wks (soft neck).
### What controls blooming?

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<th>Sunrise</th>
<th>Sunset</th>
<th>Length</th>
<th>Change</th>
<th>Dawn</th>
<th>Dusk</th>
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</table>

Notes: Daylight saving time, * = Next day. Change preference.
Daylength over time

Why do my onions flower?

Plants/sets beyond the juvenile stage (5 leaves) are sensitive to vernalization.

Plants exposed to alternating warm and cold temps that cause the plant to go dormant and resume growth will prematurely flower.

Results in smaller bulbs that do not store.
Questions?