

Environmental factors related to flowering/bolting in vegetable crops

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- Flower and seed development in vegetable plants is determined by
 - The response of the plant to environmental factors *e.g.*
 - ❖ Photoperiod and
 - ❖ Temperature

Temperature influences -

- Rate of development and
- The number of flowers that
- produce mature seeds

Rate of development is also influenced by

- Soil moisture,
- Soil type and
- Fertility

- Wind
- Rainfall
- Light
- Most crops require moderate temperature for flowering and seed set
- Too high temperature caused desiccation to pollen reduce seed setting

- Excessive rainfall leads to higher incidence of pests and diseases and makes seed useless
- It may result in delayed maturity and pre germination of seed
- High temperature at flowering – in Brinjal – pseudo styled flowered is developed
- Rainfall at harvest – Tomato- in situ germination

- Rainfall at maturity- Bhindi- Off colored seed produce.
- Strong winds at or near, harvest time caused heavy seed loses
- Nitrogen deficiency in carrot- less seed setting
- Phosphorus deficiency – overall loss of growth and development
- Potassium play vital role in flowering and seed development

➤ The most common stressful situations that cause **bolting**

- ❖ Increased day length,
- ❖ High soil temperatures and
- ❖ Root stress

Ways to Prevent Plants From Bolting

1. **Plant bolt-resistant seed** –For growing onions, look for heat-treated onion sets.
2. **Cool soil with a layer of mulch**- Plants with heat-sensitive roots, such as broccoli, cauliflower,

3. **Plant crops during a cooler season**-Brassicas like kale, cabbage
4. **Provide shade for cold-weather crops**-Radishes, lettuce, and spinach
5. **Make sure using an appropriate fertilizer**-fertilizer tailored to growing leaves and stems as opposed to one that encourages flower growth.

6. Direct sow seeds-

Plants prone to bolting due to root stress—
such as carrots, turnips, beetroot, radishes