

Meet the Alliums - Plants that Add Flavor

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Common Vegetable Crops in the family Alliaceae and genus *Allium*

(<http://en.wikipedia.org/wiki/Allium>)

- Green Onions / Scallions (*Allium cepa*)
- Garlic (*Allium sativum*) (or elephant garlic which is related to leeks)
- Leeks (*Allium ampeloprasum*)
- Sweet Onions – white / red (*Allium cepa*)
- Storage Onions – white / red (*Allium cepa*)
- Shallots (*Allium cepa* var. *aggregatum*)
- Walking or Egyptian Onions (*Allium cepa* var. *proliferum*)
- Chives (*Allium schoenoprasum*) and garlic chives (*Allium tuberosum*)

Questions to Address:

1. What to grow? (crop and varieties)
2. How many/much to grow?
3. When to grow them?
4. Where to grow them?
5. How to grow them?
6. How to harvest?
7. How to store / protect?
8. How to market?

Crop Topics:

1. History, background and folklore (**What, Where, When, etc**)
 - Mostly from the Mediterranean Region or Eurasia.
 - Grown and eaten since ancient times.
 - Some are biennials (grow one year, flower next, then die) and some perennials (return each year).
2. Crop and Cultivar selection – (**What?**) how many types? Possible priority if space limited?
 - How much garden space is available? Personal eating preferences. Market preference and price.
 - Green onions require minimal space and can be very productive in small spaces. Can be started several times a year. Cost for a bunch of 8 to 10?
 - Garlic for a family – say 50 bulbs or one per week can be grown in an area of about 8' x 6'
 - A similar number of leeks could be grown in a similar space. Leeks may be the most expensive item to purchase at the store. Leeks store well with refrigeration or in the garden with protection.
 - Onions require more growing space to grow more of them; could eat/cook one per day per family? Might prioritize some sweet onions for the summer over storage onions?
3. How many plants per person or family? (or yield per plant) (**How much?**)
 - Green onions - range from 10 to 30 per week.
 - Garlic and leeks could be from 25 to 50 annually per family.
 - Onions could be 200 to 400 per family.
 - When buying seed, standard recommendations are to not save extra for next year since the storage longevity of seeds for this family is not as good as other families.
4. What location and how much space per plant? (**Where?**)
 - Full sun is best. Green onions can handle some shade but garlic, leeks or onions will grow slowly.
 - Green onions (scallions) can be grown at as little as 2"x2" spacing or can be grown in clumps of 6 to 8 plants in the same planting hole.
 - Garlic, leeks and onions require a minimum of 8" x 8" in fertile, irrigated soil and could need as much as 10" x 10" in unfertile or dry soil.

5. Rotation Considerations: With, Before or After What Crops? (**Where?**)

- Often shallow rooted so beneficial to have fertile soil, irrigation and no competition from weeds.
- Recommended to grow in an area where the soil is well prepared and previous crops had few weeds.

6. How Long a Crop Time and **When** to Plant? (Cool or Warm Season?)

- Early start is important since growth is best in cool season.
- Seeds are usually sown in early to mid February to provide 10 to 12 weeks of growth prior to transplanting to the field, usually in mid to late April. (4 weeks Feb + 4 Mar + 2 Apr = 10 wks)
- If transplants are available for purchase, field or garden planting can occur in April.
- Day length determines onion bulbing – we use long day onions in Michigan – bulbs are formed under long days, like those in June.
- Garlic is unique in that it is planted in the fall (usually October, after some frost) in order to establish roots that will support early spring growth and larger bulb size. If planted too soon in the fall, shoots will emerge which is not desired. I know a gardener who has been successful planting out garlic transplants that were started in peat pots in a heated greenhouse and moved outside in April.

7. Propagation/Getting Started – Seeds, Sets and Transplants (**When and How?**)

- Seeds – germination percentage may be low at the start (may require sowing extra seeds to get desired number of plants)
- Seeds generally considered to not store well.
- Seeds can be collected – biennials so flowers and seeds in second season.
- Onion “sets” – small bulbs produced from seed the previous year and then stored, may be available in some locations. May be a good choice if transplants cannot be grown or purchased.
- Garlic – bulbs and cloves and top sets
- Leeks – transplants can be set in trench or hole that is gradually filled in to provide long “neck”.

8. Cultivation and training: Fertility, Irrigation (**How?**)

- As stated previously, fertile, irrigated and weed free is very helpful.
- Organic matter and fertility from compost also helps to increase water absorption and retention.
- Water availability is a key to maintaining growth – general recommendation of an inch of water per week applies.
- Plastic mulch can help reduce weeding if used in a way that provides for irrigation.

9. Plant Protection – what herbivores, decomposers and predators to consider?

- Generally not bothered by deer and rabbits.
- Not many insect pests - onion maggot is a concern in large scale field production. Management method is to clean fields and compost any unharvested plants.
- Foliar disease – blight can lead to loss of leaves and therefore small or no bulbs.

10. Harvest, Storage and Display

- Green onions, leeks and sweet onions require no curing – can be consumed at harvest.
- Important to “cure” storage onions and garlic for storage – several weeks in a warm, dry location, may be light or dark but shaded or dark preferred.
- Garlic is harvested while 4 to 6 leaves are still green by pulling from the ground and shaking soil from the roots. Plants may be tied in bundles and hung or laid out on drying racks. Tops are then cut from bulbs. Bulbs are stored in cool (40°F) or cold (34°F) conditions for longest quality.
- Storage onions need time for the “neck” to dry and paper “skin” to mature. Tops can be cut or pulled after drying. Onions are stored in cool (40°F) or cold (34°F) conditions for longest quality.
- Never keep garlic or onions in plastic bags.

11. Marketing, Economics and Value (What is the selling price or unit?)