

Plant families

Pathways to Farming

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Ash & Elm Horticulture



Today's Lesson

Plant Families

Growing annual vegetables

Perennial planting

Plant families

Plants within families are prone to the same
pests & diseases (P&D)

- Brassicaceae
- Fabaceae (Legumes)
- Solanaceae
- Alliaceae (Alliums)
 - (formally Liliaceae)
- Apiaceae (Umbelliferae)
- Cucurbitaceae
- Chenopodiaceae
- Asteraceae (Compositae)

Leguminoceae

Pea

Mange tout

Broad bean

Runner
bean

French
bean

Alliaceae

Onions

Shallots

Spring onions

Welsh onion

Leek

Garlic

Cucurbitaceae

Cucumbers

Courgette

Marrow

Squash

Gourds

Brassicaceae

Cabbage

Spring greens

Calabrese

Broccoli

Cauliflower

Brussels sprouts

Radish

Swede & Turnip

Kohlrabi

Oriental
vegetables

Chinese leaves

Rocket

Apiaceae

Carrots

Parsnips

Celery

Celeriac

Parsley

Fennel

Solanaceae

Potatoes

Tomatoes

Aubergine

Peppers

Chenopodiaceae

Spinach

Beet

Beetroot

Chard

Swiss Chard

Solanaceae

Potatoes & Tomatoes



- Aubergine, peppers, potatoes, tobacco, & tomatoes
- Grow in temperate to tropical regions
- Hungry plants
- Need lots of manure
- P&D – Blight, aphids
- Potatoes- Wire worm, scab, wart disease



Leguminosae

Beans and peas

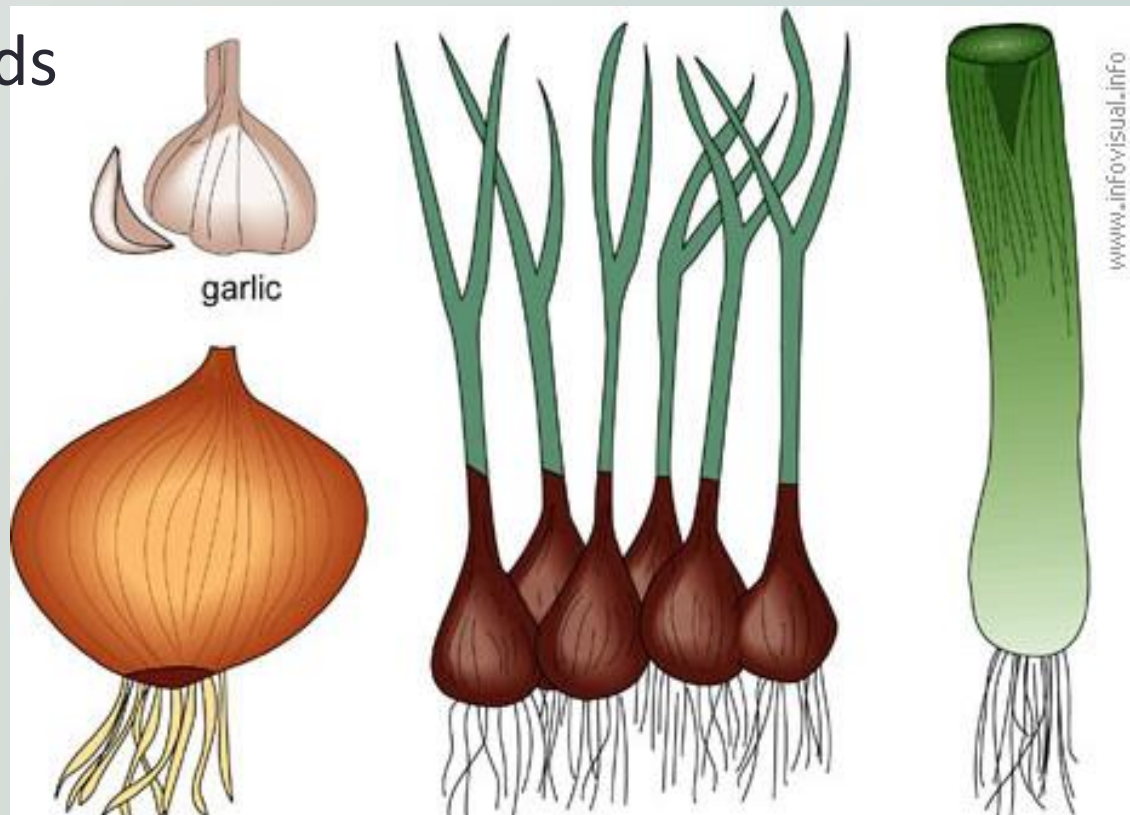


- Fix their own nitrogen
- Deep rooted
- Supply organic matter to aid water retention
- Need water at flowering time
- Broad beans and peas can over winter
- Early spring or autumn sowings benefit from cloche
- P&D – Slugs, aphids, botrytis



Alliaceae Onion family

- Hungry feeders – need nitrogen – use up muck from previous crop
- Seeds or set
- Hoe regularly
- Snap of any seed heads
- P&D –
 - Onion fly (Seed)
 - Birds pull out sets
 - white rot



Apiaceae

Formally Umbelliferae

Carrot & Parsnips
Parsley & Coriander

- Biennials (flower in the 2nd year)
- Light, stone free soil is best
- Do not muck
- Sow seed thinly / thin out early
- Hoe carefully
- Water in periods of drought
- Pests & Disease
 - carrot root fly, parsnip canker



Brassicaceae/ Brassica's formally Cruciferae

- Like well consolidated soil
- Prepare soil several months in advance
- Hungry, give organic matter at digging
- Lime in Winter if needed
- P&D – Club root, aphids, caterpillars, birds, flea beetles, root fly



Cucurbitaceae

Vining plants

- Courgette
- Pumpkins
- Summer & winter squash
- Cucumbers
- Melons
- Gourds



Amaranthaceae/ Chenopodiaceae

- Swiss chard, beets, & spinach



- Flowers without petals
- Grow in soil rich in salts or nitrates



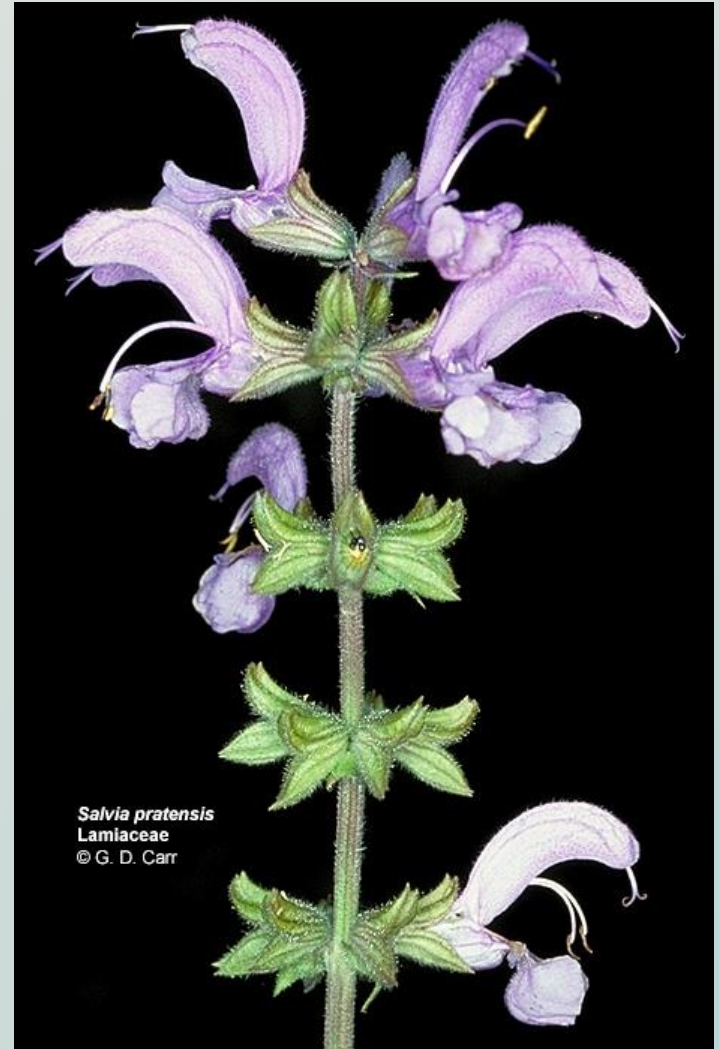
Asteraceae (or Compositae)

- Artichokes
- Chamomile
- Cardoons
- Chicory
- Tarragon
- Lettuce
- Dandelions
- salsify



Lamiaceae

- Basil, catnip, hyssop, lavender, marjoram, white horehound, lemon balm, oregano, rosemary, savory, sage, & thyme
- Plants highly fragrant
 - Leaves containing many small glands that secrete essential oils



Poaceae (Grasses)

- Corn
- Rice
- Wheat
- Barley
- Oats
- Rye
- millet



Leguminoceae

Pea

Mange tout

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Runner
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French
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Alliaceae

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Spring onions

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Solanaceae

Potatoes

Tomatoes

Aubergine

Peppers

Chenopodiaceae

Spinach

Beet

Beetroot

Chard

Swiss Chard

Activity

Think about what veg you would like to grow.

Group them in their plant families.

You can download a copy of this worksheet 4

<u>Brassicaceae/ Brassica</u>	<u>Leguminosae/ Beans & Peas</u>
<u>Alliaceae / Onions</u>	<u>Solanaceae/ Potatoes & Tomatoes</u>
<u>Umbelliferae/ Roots</u>	<u>Cucurbitaceae/ Squash</u>
<u>Chenopodiaceae/Beets</u>	<u>Compositae/ Lettuce</u>

Simple 4 year rotation

By rotating planting each year it reduces the build up of soil diseases

Potatoes 1	Legumes & squashes 4
Roots & Alliums 2	Brassica 3

Iain Tolhurst's 7 year rotation.

- At any one time, 65% of the land is cropped and 35% is growing green manures.

7 year rotation

- Year 1 and 2 – Red clover / Lucerne / herbs (4-8 varieties) – Cut and mulched, compost applied 50 cubic metres per hectare, 2-3 applications mid-summer and autumn.
 - The fertility building crops are the most important crops that are grown on the farm, they need to fix the nutrients for the next crops. The over wintered green manures protect the soil structure over the winter as well as holding the nutrients.
- Year 3 – Potatoes, with overwintered green manure (clover / vetch / ryegrass, if sown by mid-September, cereal rye for later sowing.) Sweetcorn undersown overwinter with green manures.
- Year 4 – Brassicas, winter / spring cropping, possible under-sow clover / vetch early September.
- Year 5 – Allium. Onion and leeks, Onion is intercropped with clover and yellow trefoil. Leeks are undersown with cereal rye / oats / vetch. Post onion sown crimson red clover / vetch.
 - Diseases such as onion white rot are controlled through the rotation. The brassicas that are grown previously suppress the diseases in the soil due to their bio fumigation properties. Once these are turned in, it minimises the risks from white rot.
- Year 6 – Carrot after leek, parsnip after onion. Beetroot / chard late July, undersown overwinter with green manures. Broad beans sown October.
- Year 7 – Broad beans Feb / March, sweetcorn and squash. All crops undersown with red clover / Lucerne.

Perennial planting

- Veg
- Fruit
- Nuts
- Herbs

Perennial Veg

- Tree leaves
 - Hawthorn, lime, oak
- Alliums
 - Welsh, walking, tri cornered leek, Babington's leek
- Brassicas
 - Kale



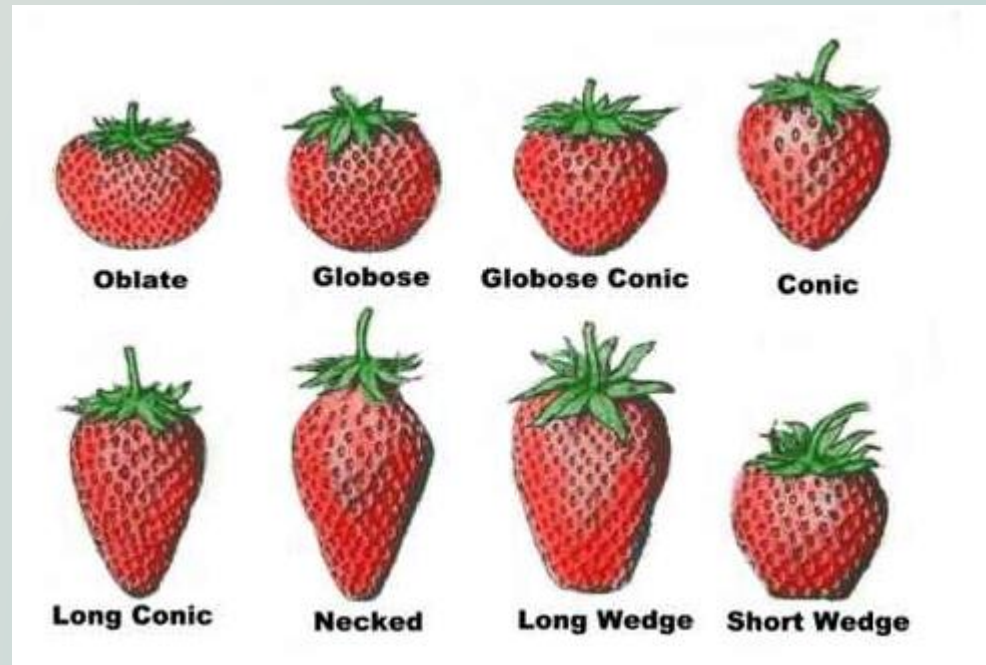
Fruit

- Fruit trees
- Soft fruit
 - Bush fruit
 - Strawberries



Unusual fruit

Black raspberries
White strawberries
Medlar



Nuts

- Hazel/ cob/ filbert
- Walnut
- Sweet Chestnut
- Pecan
- Almond
- Pine
- Beech



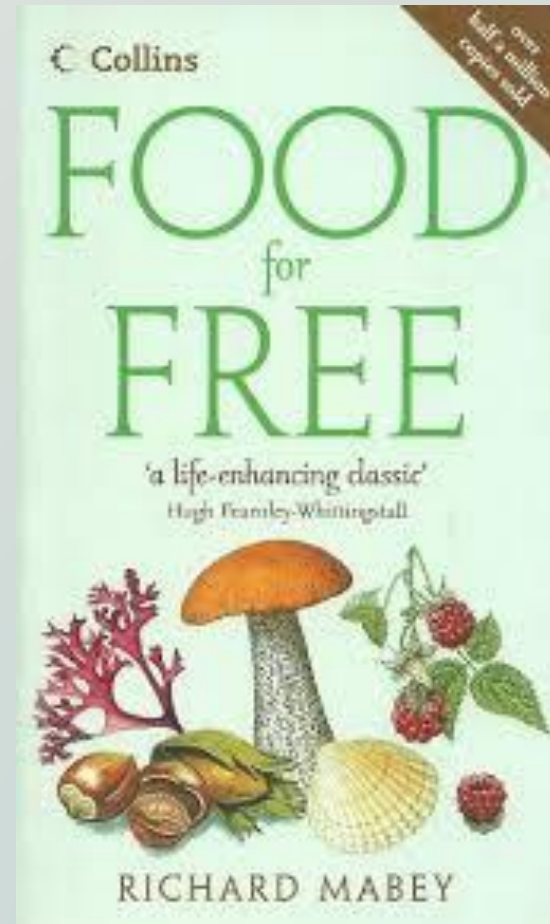
Herbs

- Perennials
 - Rosemary, Sage, Thyme, chives
- Annuals
 - Coriander, Basil
- Biannual
 - Parsley



Foraging

- Hedge mustard
- Wild garlic
- Seaweed
- Berries
- Tree leaves
- Mushrooms



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<http://www.ashandelmhorticulture.co.uk>