



# A50 Growing pulses and cereals



These crops are good fun to grow and excellent for learning more about unusual crops to grow in school and sustainable agriculture. This activity summarises growing instructions for the main pulses and cereals and invites further research about their use in recipes. See also G3.2 for other useful techniques when attempting adventurous crops.

## Resources

- Suitable site
  - Seeds of chosen pulse or cereal
- Tip:** seeds of cereal can be tricky to buy in small quantities, so try asking a local farmer for a small amount of grain. The Farmers Weekly supplier directory may be able to help at [www.agregister.co.uk](http://www.agregister.co.uk)

## Activity

- 1 Follow the growing instructions on the next page for growing:
  - a Pulses: chickpea and lentils are featured in this activity, although the term pulse refers to a broader collection of 'legume' crops.
  - b Cereals: includes wheat, barley and oats.
- 2 Find out how each of these crops are used, eg wheat is grown in huge volumes for making bread. Include variations in recipes from around the world.



Visit a farm to see how these crops are grown on an agricultural scale. Speak to the farm manager about crop rotation, feeds, sowing times and choosing the right moment to harvest.

## Extended activities

- 1 Find out about other crops you could grow, such as rice or sugar cane. Research growing conditions that each crop needs and whether you can supply them from sowing to harvest, including during school holidays.
- 2 Research the historic methods of growing and harvesting cereals, eg cutting, threshing, and winnowing by hand compared with combine harvesters.

<b>Health &amp; Safety</b>	Be careful when handling seed, compost and soil, washing hands afterwards. Ensure appropriate adult supervision. Wear dust mask when threshing and winnowing cereal heads. <i>See also Health and Safety Guidelines (Section SG1.2)</i>
<b>Further information</b>	A18 Sowing seed A22 Transplanting young plants G3.2 Growing adventurous crops

## Instructions for growing pulses and cereals

### Pulses: chickpeas, lentils

#### Planting

Sow seeds 2cm deep from mid to late April. Grow in pots indoors and transplant seedlings in June outdoors or in a greenhouse/polytunnel (more reliable); alternatively, sow direct outdoors under cloches in warmer parts of the country. Space plants about 20cm apart.

#### Growing

Remove weeds as necessary and water in prolonged dry spells.

#### Harvesting

Chickpeas and lentils need a long season to produce a good crop. Getting pods to ripen is difficult in a poor year, especially with a wet autumn. Harvest what you can, pulling up plants with unripe pods before the first frost kills them, and hanging them upside down in a shed where they may finish ripening.



Chickpea pods



Chickpea seed

### Cereals: wheat, barley, oats

#### Planting

Sow seeds 1cm deep outdoors. Protect from birds, eg hang CDs to scare off or lay pea sticks over soil surface. It is important to sow 'winter' varieties from September to November and 'spring' varieties from February to April.

Sow in rows 15cm apart, ideally in blocks for plant support. Space seed 2-5cm apart within the rows.

Can also broadcast seeds.

#### Growing

Remove weeds as necessary.

#### Harvesting

Autumn sown plants will be ready in late June to July; spring sown from July to September, although dates vary depending on weather. Check grains are ready to harvest by pinching them between finger and thumb. They should be rock hard. You may need help during the summer holidays to avoid missing when plants are ready.

#### Harvest by:

- 1 Cutting the heads off with shears.
- 2 'Threshing' the heads to break them apart by hitting with a stick and rubbing between hands.
- 3 'Winnowing' to separate the grain from other plant parts known as 'chaff' by sieving or picking out.



Wheat in rows



Wheat



Oats



Barley at harvest