

# Organic combining peas

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Combining peas are a high-risk crop. However, where they can be grown successfully they are both a fertility-building arable cash crop (especially the N rich residues from their association with N fixing rhizobia) and an opportunity to reduce the proportion of grass/clover ley in the rotation. Their early ripening is potentially a very useful component of an arable-based organic rotation.

## Analysis of combining peas

- Crude protein 22-28%
- ME 13MJ/kg DM
- Yield 0 to 0.5 t/ha



## Field selection

- Altitude below 110m and rainfall less than 850mm (33 inches)
- Freely drained, stone-free soil
- Soil pH 5.8 – 6.2
- Moderate soil phosphate and potash, but low soil nitrogen to encourage N fixation
- Field should not have grown peas or beans in previous 4 years
- Relatively free of weeds because peas are not a good competitor
- Free of Sclerotinia infection caused by frequent broad-leaved crops

## Variety selection

- Early maturity so that peas can be harvested in good conditions
- Choose high score for standing ability and ease of combining
  - (sowing with 20-30kg/ha stiff strawed barley will improve standing ability of crop)
- Long straw helps the crop compete with weeds, but can go flat nearer harvest
- Resistant to Downy Mildew, especially where peas are grown frequently in rotation
- Consider current PGRO recommended lists for info on earliness, disease resistance, straw length, ease of combining, yield, and protein content, etc.

## Seed selection

- Ascochyta infection which should be below 5%
- Germination % should be high e.g. > 90% (adjust seed rate based on this)
- Test home-saved seed for pea bacterial blight
- (Damping off diseases tend to be soil borne)

## **Sowing Date**

- Early sowing may result in damping off and reducing plant numbers
- Late sowing will result in lower yield and late harvest
- Optimum sowing date is typically around mid-March – early April

## **Seed Rate**

- Conventional seed rate plus 10-15% for weeding losses. Roll to consolidate and reduce bird damage (consider using scaring devices, etc.)
- Approx 250 kg/ha for around 80 established plants per m<sup>2</sup> (consult tables) – some varieties will be higher e.g. Zero-4 aiming for around 110 plants per m<sup>2</sup> (based on similar seed rate).

## **Weeding**

- Ideally grow in fields known to have a lower weed burden (mentioned earlier)
- Consider undersowing with white clover or trefoil
- 1st – 2nd node stage – comb harrow with 6mm tines (not if undersown)
- 2nd – 3rd node stage – comb harrow with 6mm tines (not if undersown)
- Take care not to bring up stones

## **Micro Nutrients**

- Normally supplied by application of organic manures within the rotation
- Treat for manganese deficiency if symptoms occur

## **Foliar Diseases**

- Downy mildew minimised by rotation and resistant varieties
- Botrytis may be a problem in wetter seasons but no permitted material gives control

## **Harvesting**

- Either: swath when lower pods start to turn yellow and combine when crop is dry
- Or: combine direct when crop is dry
- Only grow as much as can be combined in one day
- Take care to adjust combine settings to reduce seed damage

## **Residual benefit**

- Expect nitrogen residues of 30 – 60 kg/ha (not over 100 kg/ha as with clover leys)

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