



EIPWALES

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Collaborating for rural success



menter
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ORGANIC ASPARAGUS PRODUCTION: HARVESTING GUIDE



The organic solution to weed control in this EIP project is based on harrowing above the crowns and re-ridging. This is best done by the end of March, so the soil structure is good and there is no weed at the time of spear emergence.

This is repeated after harvest to deter late germinating weeds.

*Image 1: Soil preparation and spear emergence
April 2020 photo R Whittal*

Asparagus is usually ready to harvest in April depending on the season, the exact date is difficult to predict due to variable weather at that time of year.

Good organization is essential to ensure successful harvesting, packing and marketing of the crop.

- Ensure you have market outlets for your asparagus
- Ensure there are sufficient trained staff available for harvesting and packing
- Clean and prepare the packing area and cold store
- Plan the harvesting process and pick evenly across the field
- Tractor mounted rigs reduce the amount of load staff have to carry and streamline processes

COMMON PROBLEMS

Slug damage causes the crop to kink and downgrade:

- Treat with 'organic approved' ferric phosphate pellets, especially if wet at point of emergence. Organic producers need to liaise with the Certification Body regarding the use of these products prior to use to ensure compliance.

Frost can damage the spears and is difficult to see:

- After 24 hours or so the spears break down and go slimy.
- Check carefully after frost to see the extent of the damage. This is not always even across a field, look carefully in any low lying areas as this is where the frost collects.
- The main problem with frost damage is that it may only become visible once purchased if the product is sold very fresh.

HARVEST



Farm shops have a little more tolerance to defects than supermarkets, but it is right to strive for top end quality.

*Image 2:
Vigorous crop ready to harvest showing variation*

The crop is normally harvested by knife, and in practice the cheap sharp disposable kitchen knives are the best option. Some farms change these daily rather than sharpen them.



Ideally the spear is cut with a small amount of the white underground portion on the spear as this sets them off well and can be sold increasing the weight.

*Image 3:
Asparagus knife and spears, note physical damage to lower spear*

Harvesting is done by eye and requires training:

- The key is recognising head quality, if the head is good, and the spear is too short it can be left to the next harvest.
- To maximize yield the crop needs to be taken when at the optimal length (see Image 3 above), otherwise a lot of trimming is required in the pack house, and again loses yield.
- A new harvesting crew may take a while to pick up the correct technique. Output depends on a lot of factors, including crop quality, stage of the season and the day to day weather.
- In hot weather the crop has to be harvested at least daily. In cold, wet conditions it may be once a week.

GRADING



A third of the yield can be lost between the field and the marketed bunch, so attention to detail is essential when harvesting and packing. The head needs to be tight for top quality, and blown or loose heads are not wanted.

Image 4: Showing a good quality head to top of picture. Poorer quality heads below.

Modern varieties tend to keep a tight head. If they are not picked regularly the spears extend their growth so will need trimming to waste.

Care must be taken not to damage newly emerging spears close to the harvested ones. Any physical damage such as a knife nick or a slug feeding mark will cause the spear to kink. This drops it into soup grade.

Ideally harvesting starts early in the day while the temperature is still low. Unless cooled rapidly after harvest spears will wilt rapidly. Any delays between cutting and cooling should be minimised.



Grading machines help to speed up this task. This type of investment can soon pay for itself, even on smaller 1Ha units.

These often have a spray bar to wash off any field soil and this also cools the crop. Water should be microbiologically acceptable (*Water Supply (Water Quality) Regulations, 1989*).

Image 5: Asparagus grader in a pack house.

- The crop is graded into jumbo, medium and sprue, the latter is a soup type grade of thin spears.
- A good crop should be mostly jumbo and high end medium to maximize profit.
- Older plantations often produce a lot of thin spears. Farm shops can sell a mixed bag and this is often popular with the customers.
- Price is around £6 -12 a kg depending on quality, area and demand.
- This is the area where a small reduction in price has a big influence on gross output. Organic local and fresh is the best possible product.

POST HARVEST MANAGEMENT OF SPEARS

- Spear temperature should ideally be reduced below 5°C as soon as possible after harvest, and preferably to 1–2°C and a relative humidity of 95%. This is the most effective means of preserving quality and shelf life.
- The spears need to be kept upright or they bend as they still grow. They will keep in that environment for up to 10 days, but flavour will diminish. Fresh is best.
- Ice banks can be produced using recycled chest freezers, and these can work well. They help flatten the highly variable daily outputs.



Spears are normally rubber banded to hold them together, often two bands per bunch.

Bunches can be from 200g to 450g depending on the market, often the consumer thinks in terms of price per bunch not weight and smaller bunches may be more attractive particularly in a farm shop.

It is important to differentiate between a local high quality low food mile product and an import.

A branded paper band round the bundles looks good and sets the crop off well (*See Image 6 adjacent*).

Stop harvesting by the 21st June to allow regeneration

- If the plantation is performing badly, with clearly declining vigour, stop earlier.
- The previous season's fern growth is a guide to how well the plantation is performing, as is a field new into production (this allows direct comparison of output).
- As the crop starts to become weaker, with output decreasing, stop immediately.

POST HARVEST MANAGEMENT OF FIELD

- Weeds are the major threat in organic systems.
- Weeds can be controlled using mulches, which is achievable on a small scale, or by cultivation.
- For cultivation, on the ceasing of harvest, harrow down the ridge shallowly (this will damage some spears under the surface). Once harrowed re-ridge the crop.
- The crop soon emerges and there is another brief window to add extra soil to the ridge before the recovering crop becomes too tall.
- If weed appears after that, going through again, preferably with a high clearance tractor and adding to the ridge will keep down late weeds such as fat hen.

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