

The Organic Development Programme: run by Organic Centre Wales delivering on behalf of Farming Connect



Growing cereals for human consumption

Although at present little organic grain is processed in Wales, there are a small number of artisan mills that are interested in sourcing Welsh wheat, barley, oats, rye and spelt. Of these, wheat is the most popular, but not the easiest to grow.

Hard wheat varieties, which contain high levels of protein (especially gluten) and are used for bread making, are best grown in regions with cold winters and hot, dry summers. The mild climate of the western UK is better suited to growing the soft biscuit wheat varieties, but it is still possible to produce wheat suitable for bread making in Wales. The specification for bread and biscuit making is given below. The Hagberg Falling Number (HFN) of a grain sample is a measure of the integrity of the starch, which breaks down when the grain starts to sprout. A low number means that the flour absorbs less water and produces a sticky dough and poor quality loaf. HFN depends on the variety and the growing conditions.

Milling wheat specifications

	<i>Protein</i>	<i>Moisture</i>	<i>Hagberg Falling Number (HFN)</i>	<i>Hectolitre weight (hl)</i>
Bread making	>12%	14%	> 250	>76kg
Biscuit making	>11%	14%	>180	>76kg

Achieving a good crop

Wheat grows best on loamy/clay soils, and does well after a grass/legume break, or a crop that has left a residue of fertility, such as maize or potatoes. A typical soil analysis for a good crop would be pH 6.0, P index 2, K index 2. The growth period is about 180 days. Spring wheat is more likely than winter wheat to reach the protein specification for bread, because the grain development stage of wheat will better correspond with the availability of nitrogen release from the previous fertility building crop. Wheat should not be grown more than twice in succession due to a decline in soil mineral nitrogen levels and the risk of Take All disease (*Gaeumannomyces graminis*).*

Wheat varieties which are suitable for bread making:

The National Association of British and Irish Millers (Nabim) recognizes four groups.

Nabim Group 1 Hard suitable for most UK grists

Nabim Group 2 Milling potential

Nabim group 3 Biscuit, starch blending

Nabim group 4 Feed and minor grists

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Presentation of grain for marketing

Although some mills have seed cleaning facilities and can take delivery of bulk blown loads, the small mills need to receive the grain pre-cleaned and in 25 kg bags. The businesses listed below offer a mobile service and can clean grains of weed seeds, ergots and foreign objects. Because some grains are made into breakfast cereal, the Food Standards Agency sets standards for these, and for the presence of mycotoxins. In addition it may be necessary to test grain for the presence of fungal diseases.

Mobile seed cleaners

Company	Service offered	Area covered	Contact details
Paul Baker, Mobile Seed (Borders) Ltd	Bagging cleaned grain in 25 kg sacks	Mainly Wrexham, Ruthin, Denbigh, other areas depending on tonnage.	01952 463097
Charles Goldingham, Goldingham Contracts	Could offer bagging if sufficient demand	Glamorgan, Gwent	01453 860860
Stuart Ruell	Small trailer-mounted cleaner for hire. Could be coupled to a bagging unit	Powys and Radnorshire	01544 260357
Frank Littlehale Re So Seeds	Cleaning only	All Wales	01785 780490

Mill	Grain processed per annum		
	Rye	Spelt	Wheat
Y Felin, St Dogmaels SA43 3DY, UK. 01239 613999	500 kg	500 kg	1 tonne organic 20-25 t conventional
Melin Bompren, St Fagans CF5 6XB 029 2057 3500			Very small quantities of wheat
Bacheldre, Powys SY15 6TE 01588 620489	Quantity not specified	Quantity not specified	240 -250 tonnes
Felin Ganol, Llanrhystud SY23 5AL 01974 202272	1 tonne	1 tonne	10 tonne
Llynonn, Ynys Môn LL65 4AB 01407 730797			6-8 tonnes

Grain mills in Wales

Other potential markets for grains:

- Malting barley for micro-breweries.
- Thatching straw
- sprouting for salads and for the health food market

Further information

<http://www.hgca.com>

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

*'Organic Cereal & Pulse Production' – A complete guide Author Stephen Briggs Published by Crowood Press