

Farm diversification new business ideas – Specialist Crops and Livestock

Worm Breeding

Key points to consider

- Worm breeding is relatively scarce in Northern Ireland.
- Worms can remain productive for up to 17 years.
- Worm casts combined with peat make a superb compost.
- Worms do not carry any known diseases.
- 1kg of worms sells for approximately £10-£12 wholesale.



Market overview

The saleable products derived from worm breeding are the worms themselves, pure worm casts, and worm casts mixed with various other materials to make composts and grow-bags.

Anglers use live worms for bait, however, local demand has so far been limited and seasonal in Northern Ireland, with sales greatest around Lough Neagh and the Foyle Estuary.

Garden centres are important outlets for the worm-based compost products, which are usually packed into labelled bags. In Northern Ireland the market for these products has traditionally been very small. Greater opportunities may exist in markets in Great Britain or the Republic of Ireland.

Few wormeries exist in Northern Ireland and the market is relatively under-explored.

Production requirements

Worms

Two species are mainly used in wormeries, the blue nosed worm and the red worm. Both breed continuously up to two years, thereafter they will live and produce worm casts for another 15 years. The blue nosed worm is the one preferred by anglers.

Growing systems

Worms produce a high output of eggs in 0.3m x 0.3m wood or plastic propagation boxes, each filled to a depth of 100-125mm with bedding material made from 50-50 mix of uncontaminated horse droppings and horticultural peat. Around 200 blue nose or 1,000 red breeder worms are placed in each box.

In addition to a bench, which can hold at least eight propagation boxes, a small wormery requires an outdoor pit measuring 2.8-3.7 square metres. Under ideal conditions an established unit of this size can produce up to 1,000 blue nose or 5,000 red worms per week.

A medium-sized wormery may consist of 120 propagation boxes and a pit measuring 28-37 square metres constructed with concrete block or timber to a height of 300 - 450mm. This unit can produce a minimum of 30 kilograms of worms per week. One barrow-load of horse, cow, sheep or pig manure is required per day. At this level of production receipts from the sale of worms to angling clubs and tackle shops can make a small contribution to farm income.

Large-scale production of worms can be performed in polythene tunnels with great success. This system provides optimum working conditions for picking worms especially in early spring and late autumn.

Harvesting

The harvesting of propagation boxes, growing pits and worm casts is part of the production process in a wormery. Propagation boxes are harvested every four weeks. The contents of a propagation box, that is, worms, bedding and eggs are tipped out in a conical shaped pile on a bench or table. Any worms near the outside of the pile will quickly disappear deep into the pile. The worm free bedding is raked away which is placed in hatching boxes or returned to the pit as it contains feed and eggs.

Separation is continued until worms are left in a writhing bundle on the table. The separated worms are then placed back on top of a new pre-prepared batch of bedding ready for the next harvest or packed for sale. Worms must be protected from the light as quickly as possible.

Worm casts are harvested after a growing pit has built up to a depth of 450 mm. A layer 100mm deep containing the worms and any undigested feed is skimmed off. The pit is emptied and the skimmings then go back into the bottom of the pit. The worm casts must always be stored inside or under a tarpaulin. This is to keep the casts dry for easy mixing and also to prevent weed seeds falling on them.

Packing worms

The standard packing material for worms is peat, dampened with enough water to allow a few drops to be squeezed from it. Worms for bait are packed in a 225g plastic container. Worms packed in moist peat have a shelf life of over one week.

In the case of a large unit, worm batches of 1,000 can be packed into closely woven cloth bags. Worms packed in bulk should be despatched within 12 hours.

Packing worm cast products

Bags are filled by shovel or from a raised hopper. Polythene bag heat sealers are worthwhile once a business is up and running. Heat-sealed bags give a professional look to the product and make stacking and carrying much easier. Reasonably priced hand operated machines are available.

Labour

The time required to manage a small wormery will vary depending on the size of the unit. Making use of family help can reduce labour costs.

Legal issues

Planning

Although buildings are not essential to this enterprise, planning permission is required for new buildings and for change of use of an existing farm building.

Environmental health

It is advisable to discuss issues such as removal of waste and pollution with a local environmental health officer, who can be contacted through your local council.

Financial considerations

Income from wormeries is difficult to estimate but will vary depending on:

- Scale of the enterprise
- Costs of raw materials (e.g. bedding may be obtained for free)
- Variable costs, in particular labour
- Sales

The wholesale price for 1kg of worms is approximately £10 – £12. The figure is £15 – £17 retail. In the case of a small producer it would appear that dealing with the retail trade is more lucrative.

The retail price of pure worm casts sold through garden centres is £3 per 40litre bag (approximately 20kg).

A 50-50 mix of worm casts and peat makes superb compost, which retails at around £2.50 per 30 litre bag (approximately 12.5kg).

The ingredients in a growbag are usually two parts peat, one-part worm casts plus 112g of limestone flour. Coir fibre can be used instead of peat. This material retails at £2.50 per bag (approximately 12.5kg).

Further contacts

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This information sheet has been compiled by Rural Enterprise Advisers.

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Note: the information provided herein is for general information only. It is not necessarily complete and is not intended to address the specific circumstances of any proposed enterprise. The market and circumstances may change substantially. Further research will be required before embarking on any new enterprise.

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