



Farming carp

What role does organic carp production have in the UK, asks **Jimmie Hepburn?**

It always surprises me when flying across the UK or travelling by train just how much standing water there is in our country. I often wonder whether we could use this water more productively. Perhaps you have a pond or lake which is not productive: have you ever considered growing some fish such as carp for the table market – or even as a poultry feed supplement?

Medieval origins

Back in medieval times fish such as carp were widely grown across the UK to provide fresh fish, particularly for communities far from the sea. With the onset of the industrial revolution, and the introduction of steam trawlers and the railways, this need diminished.

Yet with the chaotic state of today's global fisheries and ever-growing demand for fish could these unused expanses of water be farmed sustainably, providing farmers with a viable addition to the business for a reasonable return? Could aquaculture once again become part of the UK's rural landscape?

In warmer climates, such as China, agri-culture (the farming of the land) and aqua-culture (the farming of water) have been integrated for thousands of years. But while 'industrialised' aquaculture models rule supreme in the UK, integrated organic carp production is developing across Europe – particularly in Austria and Germany – and involves existing fish farms as well as agricultural holdings where livestock and crop production are successfully integrated with carp production.

So what's involved?

Carp are omnivorous, eating both animal and vegetable material. They do not need enormous quantities of clear spring water and subsequently cause little pollution concerns. Being cold blooded and living in water, fish are much more efficient in converting feed into flesh. But unlike trout or salmon, carp can be fed on locally grown crops, such as wheat or barley, and in a well managed system they can achieve a 1:1 conversion. Carp have the advantage of allowing the farmer to choose whether to rear the fish extensively or more intensively, depending on time and resources available.

Carp normally take three summers to reach a marketable weight of 0.5–1kg. The Soil Association's organic standards state that carp must obtain half their feed from the pond, achieved by regular applications of manure (normally well rotted farmyard manure) to sustain algae and zooplankton populations which form the basis of the carp's diet. Supplementary feeding is then provided in the form of soaked barley or wheat grain, field beans and compost worms (see case study right).



Could organic carp provide a much needed protein source for organic pigs and poultry?

Basic requirements

To rear carp you realistically need a pond of at least 250m² and 1–2m deep, with access to some clean water. Having more than one pond provides flexibility in rearing different sizes of fish. Ideally, ponds should have a southerly aspect, with a means of controlling the water level and the flow rate of the added water.

Most farms will already have all the essential equipment they will need to farm carp on a small scale – such as a tractor and trailer – although a seine net, anti-predator netting and transport tanks to move fish around are all useful additions. The key time commitments include carrying out the routine husbandry duties, such as feeding, supplementary manuring, water quality monitoring (particularly May–October) and grading fish out in the autumn or spring for slaughter or for restocking to newly prepared ponds.

Planning is everything so make sure you seek plenty of advice (see further reading, right). You will need to contact your Local Authority and the Environment Agency for water abstraction and discharge consent and notify the Centre for the Environment, Fisheries and Aquaculture Science (CEFAS), the Defra agency responsible for fish farm registration and fish health.

The future

Although carp is the most widely farmed species of fish in the world, the market for organic carp in the UK is still embryonic. But we have been surprised by the level of consumer interest in sustainably farmed fish, and across Europe the tradition of eating course fish is rising because of consumer trust in organic standards. Here in

the UK, the main potential outlets include restaurants, fish mongers, farm shops and box schemes. Adding value through processing (such as smoking) could further enhance returns.

An exciting alternative to table fish is to grow carp (or perhaps other course fish) as a feed supplement for organic poultry or pigs, potentially providing a much needed source of protein. This practice is frequently found in the Far East.

Making it happen

Theoretically, carp production within an integrated system makes complete sense. But developing the market will require a real pioneering spirit.

First, we need to develop a network of potential producers and other interested parties who are willing to experiment and perhaps form a cooperative to market the product. We could then arrange a meeting at the Soil Association to discuss ways of gathering information on the potential market for sustainably farmed fish and technical issues. To register your interest email the author directly (see article end).

Fortunately, the pioneering spirit is not uncommon in the organic community. As Helen Browning said at the launch of the Soil Association's organic aquaculture standards at the British Trout Association's annual conference in 1998, "taking the organic option means endlessly reassessing what is possible – and working out ways in which to make the possible practical".

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FURTHER READING

Carp Farming by **V. K. Michaels** (Fishing News Books Ltd) is now out of print (but look out for a second hand copy). *Carp and Pond Fish Culture* by **L Horvath** (Blackwell Scientific) is more recent and also very useful

Need for revolution

Aquaculture is the fastest growing food sector, driven by ever-growing demand for fish and the perilous state of our fisheries. As the human population continues to rise, aquaculture will have to come to the rescue. However, the expansion in aquaculture has slowed over recent years due to several constraining factors, including the availability of suitable sites and alternative sources of aquafeed.

Critics argue that intensive aquaculture is contributing to the overfishing crisis facing many of the world's fisheries through its use of wild-caught fish as feed for farmed fish. Indeed, a recent paper by the Food and Agriculture Organisation of the United Nations on the state of the world fisheries concluded that aquaculture must reduce its dependence on wild stocks. In other words, the only way forward for aquaculture is to wean itself off reliance on wild fish as feed and to farm the 'whole system' – as is done by small fish farmers in many southern countries.

This is a revolution which desperately needs to happen in aquaculture, but which is not yet possible even for organic salmon or trout farmers. But farming organic carp is another matter and I believe that organic farmers could lead the way for a new form of sustainable aquaculture.

Case study

Jimme Hepburn first started farming organic carp at Upper Hayne Farm, near Cullompton in Devon in July 2006 – selling its first organic certified stock in November 2008

We currently have 13 organic carp ponds covering about 2ha. The production process is fairly straightforward: young stock arrive as seven day old fry from a local carp farm and are introduced into carefully prepared ponds, which are limed and manured (an initial 60kg of FYM per 100m² with further supplements during the summer). The carp are then sorted and graded the following spring and stocked into dedicated ponds. The carp are fed daily from May–October with soaked grain or beans and water quality is regularly monitored. Oxygen levels can drop dangerously in late summer, so additional water is added to maintain adequate levels. Predators, such as heron and otter, can be a problem and we use netting over some ponds. In the autumn, the carp are harvested at the desired weight (400–900g) and transferred to clean spring water for a few days before slaughter to remove any 'muddy' taste. Unlike livestock, carp can be slaughtered on site before immediate dispatch. Initially, we sold 100kg to test the market and plan for the next season. But customer feedback was excellent and demand higher than anticipated. This winter we will sell at least 500kg to restaurants, retailers – and perhaps a box scheme!