AQUA CULTURE

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TURTLE PRESS

Can we grow silver perch in the south?

Can silver perch be grown in the south? It's a question often asked. Most North Coast and southeast Queensland growers can get their crop through a growth cycle in less than 18 months — in some cases, less than 12 months. That's from an ex-hatchery fry of around 1g up to an 800g table fish. Silver perch can certainly be grown in cooler climates, but growers in NSW's Riverina and Murrumbidgee Irrigation Area (MIA), as well as the Goulburn Murray irrigation districts of Victoria, have been asking themselves whether they can compete with growers blessed with milder winters and earlier start-up times, and, if so, how? *Austasia Aquaculture* sought the views of three growers in the regions.

Andrew Pratt of Australian Freshwater Aquaculture Pty Ltd (AFA) on Billabong Creek at Jerilderie in the NSW's western Riverina is beginning his second full year as manager. AFA operates a hatchery as well as a growout facility and is integrated with a rice and row crop irrigation property. Andrew has worked in warmwater aquaculture for six years and has worked at Tamworth and Wagga Wagga.

He regards silver perch as a mass-market fish with opportunities in Australia and overseas. He believes they can be grown in the southern regions, but the economics have to be considered. "Our operation here is integrated", he says. "The economics may not be so attractive if it was a stand-alone growout operation. We get some terrific growing temperatures here in summer but you have to make the most of them. Last season we had a heatwave and water temperatures reached 34°C. The fish seem to weather it okay but we had to cut out the feed for the duration and aerate around the clock."

Being integrated, AFA has the option of running water through the ponds prior to it being used in agriculture, but, as Andrew says, "there isn't any steadfast rule. We rely on pond-by-pond management needs in this regard. Aeration is the main tool used to maintain water quality and we run 5hp/ha [3.73kW/ha] on the 0.2ha and 6hp/ha [4.476kW/ha] on the 0.3ha ponds."

Production controlled by season

The production routine is controlled by the season. The fish are bred on the farm and graded out of fry ponds into nursery ponds after six to eight weeks. Andrew aims for a 50g fish before the onset of winter. The stock are fed a maintenance ration, 0.5 per cent of body weight, until the ponds warm up again. In September the fish are graded into the growout ponds. Harvesting starts in March/April when the fish range between 350g and 800g at an average of 450g.

The greatest problem encountered, however, is not one of reaching a growing temperature during the warmer months but of low temperatures during the over-wintering period. During extremely cold spells, pond temperatures can be as low as 6°C, and pond temperatures below 10°C can trigger outbreaks of *Saprolegnia* on the gills. As these outbreaks occur in the middle of the production cycle, they are very costly and add to the risk of growing silver perch in the southern and even the more northern inland regions where extreme winter temperatures are experienced.

Bruce Malcolm of Uarah Fisheries has great confidence in silver perch.

Andrew believes the outbreaks to be primary infections but the exact trigger is unknown. He has argued for research to be carried out on the problem, which he cites as a major factor limiting the growth of the silver perch aquaculture, particularly where prolonged cold spells are a winter occurrence.

Lateral thinking

Bruce Malcolm of Uarah Fisheries

Russel Fleisher and Nigel Simmonds harvesting silver perch at Uarah Fisheries.

at Grong Grong in southern NSW is one of the most successful aquaculturists in Australia. When *Austasia Aquaculture* asked him for the secret of his success, the answer came as no surprise. "Just a matter of using a bit of lateral thinking and peripheral vision," he says, "and putting yourself in the fish's position. If I look after the fish, the fish will look after me. The fish come first, no matter what time of the day or night. If you want to be good at the job you've got to look after the animals. If you don't, they wont look after you."

He has no problem growing silver perch and has great confidence in the potential of the species to support a major aquaculture in Australia. When it comes to growing in the southern regions, Bruce believes it's possible with the right strategy, which means starting with the right size fish. "Wintertime is just a fact of life. There are 'best' places in NSW to grow wheat, but that doesn't mean someone who lives somewhere else can't grow wheat. We're about 2°C behind, say, Mike Beveridge up at Gilgandra, but once we get into summer we're on a par.

"I think all growers have a few problems with protozoans. Once you're right in a season the fish settle down for those climatic conditions. It's in the transitional periods where you get some warm conditions followed by a cool change, and water temperatures are up and down, up and down, that the fish are more susceptible to protozoans." Interestingly, all inland growers face these conditions at one time or another regardless of the length of the growing season.

As Uarah Fisheries is primarily a hatchery, growout procedures can sometimes take a back seat while more critical matters take precedence; production methods don't follow a rigid pattern. Some fish are carried through winter in the ponds, others are held in recirculation systems. Bruce is usually working with late-spawned fish as the early spawners go to Uarah's clients. Once the level of activity on the farm slows down, he'll assess the situation and make some management decisions relative to the season. Bruce likes to get the fish up to 15g at the end of the first summer. During September he'll harvest and grade the over-wintered fish and put them out into the growout ponds. From that point it usually takes another 12 months to get them up to 700–800g.

His approach to the growout phase is similar to that followed by trout growers in the mid-Goulburn region. "What's important to understand is that it's from when the fish are stocked in the actual growout phase that counts. The age, to me, is not the important thing. It's how long it's taking you from when you start growing the fish as a commercial table product. That can be varied purely by the climatic conditions you get. Sometimes we have a hotter summer than they have up north. We had water temperatures here last summer of 32°C. The fish handled it alright but it put a put a fair bit of pressure on me. When you've got those sort of conditions you've got to take a different approach, feed at different times, working in with the fish. During that time we had some exceptional growth. I really think that temperatures of 27°C to 28°C are a lot better because it's so much easier management-wise. With those high temperatures we couldn't feed what we wanted to feed simply because our water quality parameters wouldn't allow it. The fish will feed better at those slightly lower temperatures, below 30°C, and the ponds are so much easier to manage".

Barrington Perch — a new brand name

The Gloucester Native Fish Growers Co-operative was formed in 1994 to advance the farming of Silver Perch in the region. In October 1999 Mr Bill Rutledge, NSW Director Aquaculture, officially opened the new processing facility on behalf of the Minister for Mineral Resources and Minister for Fisheries Edward Obeid (who was unable to attend due to ill health). Marsia Thompso, Secretary of the Co-operative, describes the path which drew the group of farmers to this stage in the development of their industry.

The move to commence Silver Perch (*Bidyanus Bidyanus*) farming in the area was a straight forward process of diversification. It allowed small acreages to become financially viable and for larger properties to diversify, with many owners being conscious of the perils of single cropping.

Clean green image

There are numerous advantages to farming Silver Perch in the area, not the least of which is the good infrastructure, and the relatively close major outlets of Sydney, Newcastle and the Hunter Valley. Drawing on another benefit, the Co-operative registered the name '*Barrington Perch*' as a brand name for their quality controlled product. This is taken from the proximity of Gloucester to the world heritage wilderness area of the Barrington Tops, known for its pristine waters, thus providing a 'green and clean' image.

People and challenges

Since 1994 some twelve farmers have consolidated into the Co-operative, bringing together a range of skills and experience which remains useful today. For example, there are members from the timber, beef and dairy industries; another member combines the breeding of Boer goats with her aquaculture enterprise, yet another the growing of olives. The farms are spread around the town of Gloucester where the new processing facility is central to all of them. Most of the farms are small averaging about 1 hectare under water. Combined they form a reasonably sized enterprise guaranteeing continuity of supply.

Some of the farmers draw their water from rivers, while others draw their water from reservoir dams on their properties. Many of these are spring fed. Marsia was lucky — a large dam was established on her property when she acquired it some ten years ago. She has lived in the area since moving from Sydney for a change in lifestyle. The experience of moving into aquaculture and being part of the co-operative has been sometimes problematic but very rewarding in that people have worked so well together.

Talk with Bruce for just a few moments and his passion for aquaculture becomes apparent. He laments the lack of trained farm staff and the effect it has on the industry. "One of the problems with university students, and the people who run aquaculture courses, is that they all want to train hatchery managers, and there aren't too many positions vacant for hatchery managers", he says. "Fish farming is about feeding fish, looking after equipment, knowing how pumps work, knowing how motors work, the nuts and bolts of farming. It's not about training scientists. When these tertiary institutions train fish farmers instead of scientists, the industry will be 50 times better off." Bruce's closing remarks say it all: "Common sense is in inverse proportion to IQ".

Recirculation systems

Not all production systems in the southern regions are open to the elements. Steve Baker of Bogafish Pty Ltd doesn't believe that silver perch grown in open pond systems can compete with fish grown in the northern regions. "We just haven't got the temperatures", he says. "But they're very viable in recirculation systems. We can compete with anyone in the country because we can control all aspects of the environment. Temperatures in the systems are a constant 24°C to 26°C. Under these conditions 1g fry reach 500g in 12 months and this will be reduced with experience.

"All aspects of water quality can be monitored. We try to keep DO up above 6mg/L, the pH at 7.2, and hardness around 100ppm to 120ppm. We find the fish grow at around three per cent of their body weight up to 30g and we can feed them 10 per cent of their body weight even though they slow down after. The fish are graded three times: once at 30g; again at 100g, and a final run through at 250g. But we find most of the difference is graded out in the first grading. We give all the fish a three-week purging and they are very popular in the market place."

Thus it appears that far from being marginal, silver perch production has a future in the southern regions as long as growers are good fish husbanders and production managers. But it is essential that they study the conditions in their district and style their management to suit those conditions.

John Mosig

The new processing facility.