

B-E HATCHERY SUCCESS STORY

By Ed Herbst

The increasing costs of farming coupled with declining market prices have forced many a farmer to look at alternative sources of income outside the traditional agricultural sectors of meat and grain.

One such farmer is Margy Frost who, with her husband, Graham, are the fourth generation of their family to work the beautiful Balloch valley on the most southern tip of Lesotho, 45 km north of Barkly East. In addition they were always on the look out: for an opportunity to utilise another of the farms resources in order to get more out of the land and to increase its potential.

"The valley has always been blessed with an abundant rainfall and the Willow stream runs cold and clear throughout the year", says Margy. "The stream has held trout since the turn of the century and is a great favourite with fly fishers, so the possibility of starting a hatchery was an idea we had toyed with for some time".

In 1969, with an increasing interest in fly fishing throughout the country, the time seemed right to risk the investment such a venture would require.

With the help of the Department of Ichthyology and Fisheries Science at Rhodes University in Grahamstown, Margy took her first faltering steps as a trout hatchery operator. "We acquired 5000 trout fingerlings from Rhodes and grew them out in our garage," she recalls.

"Like many a local farmer, I turned to the *Barkly East Reporter* when my fish were big enough to sell and I needed to find a market for them", Margy said. "My advertisement prompted a rapid response from local flyfishers. I had orders from the Kingfisher Fly Fishing Club in Elliot, the Lady Grey Angling Club and was also privileged to meet legendary local angler, Arthur Shorten who, a year before his death, ordered fish for fly fishers in Ugie. I was also grateful for the support of the local farming community and neighbours such as Llewellyn Gush who stocked their dams with the first progeny of the Balloch Trout Hatchery".

Encouraged by the success of her first 'crop', Margy enlarged the operation, moving from her setup in the garage to a series of portapools which were gravity fed from the Willow stream. She also kept fifty of her best fish back to provide the nucleus of a breeding stock.

The following year she also bought fry from Rhodes University but, as the second successful year followed the first and all the fish she reared were snapped up, she decided to tackle the major step of breeding her own fish.

Realising that she lacked the expertise and experience necessary and that the process could very easily go wrong, she enlisted the help of Hamilton Thyali, the former manager of the trout hatchery run by Cape Nature Conservation at its Jonkershoek Research Station near Stellenbosch.



Margy Frost and her daughter Linzi inspect the trout at the Balloch hatchery.

Hamilton, who retired to his family home at Southeyville in the Transkei in 1967 after starting his career at Jonkershoek in 1941, turns eighty this year and is still hale and hearty. He attributes his longevity to his vocation - he is a lay preacher with the Church of Christ the Saviour and, such is the power and eloquence of his sermons, that he is in demand throughout the country.

Like everyone who visits Balloch, he finds the valley enchanting and has returned each year to help Margy with the stripping of the female trout and the fertilising of the eggs so produced.

Margy stocks dams within a three hundred kms radius of Balloch and says she has met a great many interesting and pleasant people as a result. While she prefers clients to collect their own fish she says that, in practice, many do not know how to transport the fish without stress or how to acclimatise them in their new home where water temperatures and other factors and conditions might differ from Balloch and so she does most of the deliveries herself.

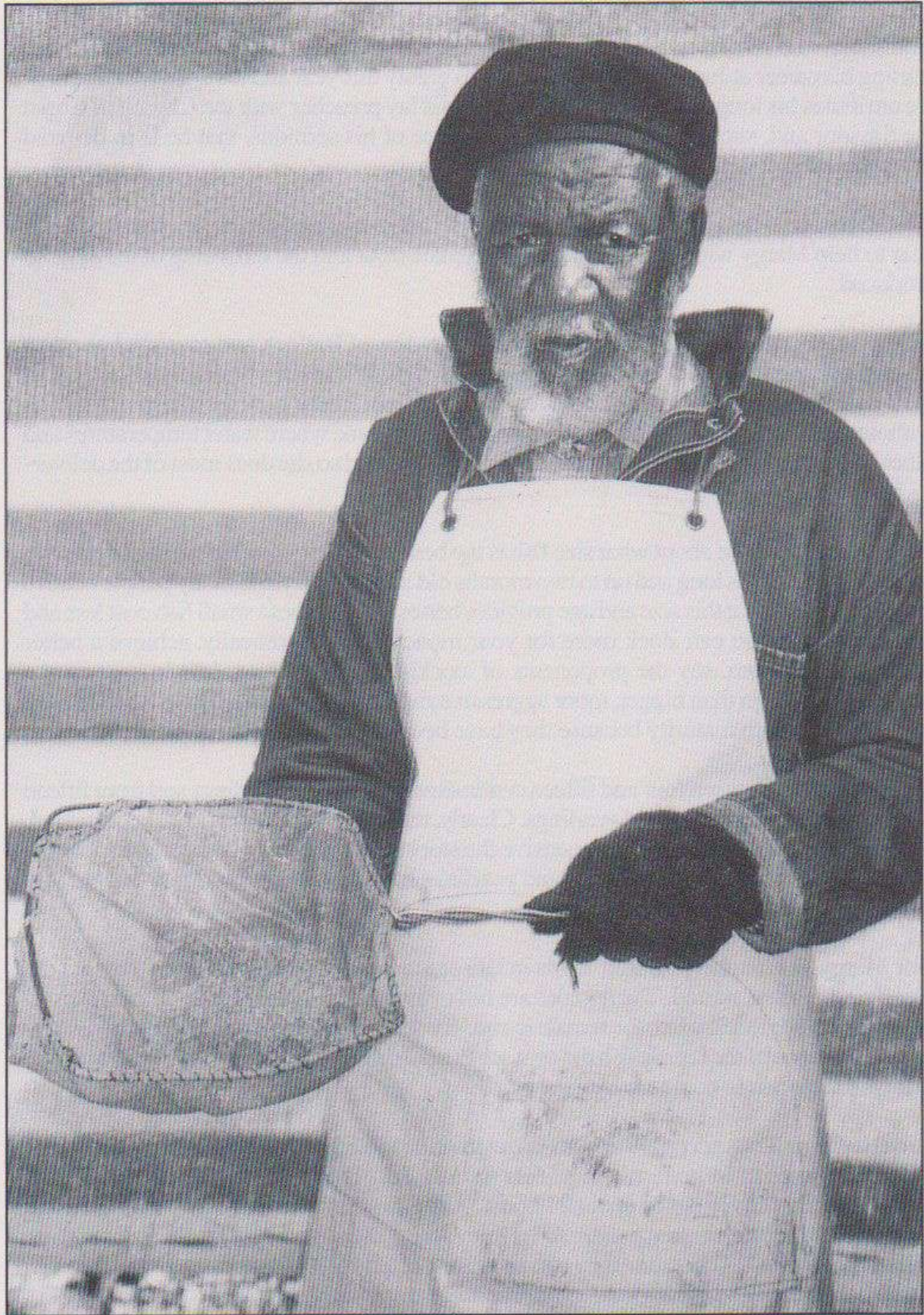
There is much debate about what size fish is the best to stock. Fish which are between two and four centimetres long and up to two months old are called fry and many people believe that stocking them at this size and age provides better results. These small fish cost less and this means that you can stock more for your money and, theoretically, achieve a better return. Furthermore, say the proponents of stocking fry, they have less impact on the ecology of the dam than bigger, more aggressive fish and can be regarded as 'wild' fish by the time they reach maturity because they have been in the dam virtually since birth.

Fish measuring between four and fifteen centimetres are called fingerlings and from fifteen centimetres upwards are called yearlings. Clearly, the longer the fish has to be kept and fed, the more they cost and the more expensive the stocking operation becomes. Many people believe however that the fingerlings and yearlings have a better survival rate and are prepared to pay accordingly.

For Margy, the hatchery 'season' starts in late autumn when nature tells the trout that the breeding cycle has started. The females are full of eggs and the males with milt. It takes an experienced eye to tell when the female is 'ripe' for stripping of her eggs. By gently squeezing the abdomen of the female fish the eggs are extruded. Simultaneously the milt is squeezed from the male fish to combine with the eggs.

Because the milt is susceptible to ultra-violet rays the mixing of milt and eggs is done in the shade. The eggs must be fertilised within six minutes. The newly-fertilised eggs have a hard, protective covering for about 24 hours. After this they are soft, easily damaged and must be handled with extreme care. After four weeks, the eggs display a black dot and are called "eyed ova". Thereafter they are again protected by a tougher outer skin and can easily be handled and transported. After becoming eyed they hatch in about two weeks.

Because of the low temperatures in the area, the eggs hatch about two and a half months after being fertilised. During this critical period the eggs are examined daily in order to remove dead eggs which quickly become covered in fungus and can affect the rest.



Famed trout breeder, Hamilton Thyali, examines a batch of recently-stripped trout eggs.



Linzi Frost fishing the Willow Stream at Balloch.



The rock art at Balloch showing the soon-to-die Bushmen being pursued by a lion.

For three weeks after the baby fish hatches it is attached to its yolk sack which provides it with nourishment. At this stage it is called an alevin and lies, hardly moving, at the bottom of the hatchery trough. In the wild this is a very vulnerable period and the alevins are preyed upon by predatory insects such as dragonfly nymphs, water beetle larvae and platana frogs.

Once the yolk sack is absorbed, the tiny fish starts to swim and feed normally. In the wild it would live on tiny insects but in Margy's hatchery they are fed eight times a day on specially formulated pellets. By September orders for early fry are delivered.

Last year Margy produced 500 000 eggs of which she kept back one hundred thousand eggs. She managed a fifty percent survival on these. She is reluctant to expand her operation any further saying that this number is what she can produce comfortably with the help of one assistant, Tanana Mabetha, and the annual input from Hamilton Thyali.

She produces a limited number of fish for the table and only supplies them to local people as this is a far more labour intensive facet of trout farming and she feels that producing fish for stocking dams in the region is contributing towards the growth of tourism which is more beneficial for the community of the north-eastern Cape as a whole.

Fly fishing for trout, she says, has become a significant part of the fabric of tourism in the N/E Cape and its potential is a long way from being fully exploited. As evidence she cites the fact that in the past year farmers in Barkly East, Rhodes and Maclear have earned fifteen thousand rands in rod tickets from visiting anglers who, in addition, spent far more than this amount in accommodation and for sundries such as food supplies and petrol to the benefit of the local economy.

While visiting anglers are complimentary about the quantity and quality of the river fishing available in the region, they sometimes express the wish for more dam angling. Farmers who make their dams and rivers available to fly fishers not only benefit financially themselves but contribute to the local economy as well, says Margy.

But, like any farming operation, aqua-culture is not without its problems. For Margy the worst period was the extreme drought in 1993 when she sometimes contemplated closing the hatchery. Other problems like otters and herons are more easily dealt with by using barriers.

Looking back, Margy feels that the venture has been well worth while and has provided a significant addition to her family income. At the same time she feels that she is also helping to improve the tourist potential of the region. When the Wild Trout Association started in 1991, it sold four rod tickets on behalf of the riparian owners - in 1997 it was five hundred - a small but significant financial incentive to the farmers who have trout waters on their property as well as an incentive to look after their rivers and maintain a good ecological balance through healthy farming practices.