

FT

WEEKEND

JANUARY 13 / JANUARY 14 2001



Blank canvases

Take stock and let your garden grow

Page XIII

Cuba's medical revolution

The island nation is at the cutting edge of biotechnology and amazes visiting scientists, yet there are shortages of basic medicines. David Pilling asks whether the Cubans can turn their expertise into a real moneyspinner

Just outside Havana, a few miles along the coast from the crumbling façades of its once-splendid beachfront, hundreds of fish glide through the freshwater pools. Bulky and abnormally large, they are African tilapia, a strong-tasting fish commonly eaten in Cuba.

But these tilapia are different. They are genetically modified – to beat the ration book.

The creatures, which have an extra copy of their growth-hormone gene spliced into their DNA, are a fitting symbol of Cuba's remarkable efforts in biotechnology. Genetically reprogrammed to grow faster than their natural cousins, they are a high-tech solution for a society still grappling with low-tech problems.

The giant tilapia are being kept in isolation while tests are carried out on their safety for consumption. Recently, scientists working at Havana's Centre for Genetic Engineering and Biotechnology spent a month dutifully chomping through tilapia – an acquired taste

Gavilondo, one of 10,000 scientists in Havana, embodies these dichotomies. Born in Chicago, his parents took him back to Cuba when he was a baby. After training in biology in Havana, he studied at the prestigious Paris laboratory of Luc Montagnier, the Nobel Prize-winning scientist who discovered HIV.

Now, free to work in the US by virtue of his American passport, Gavilondo prefers to dedicate himself to Cuban science. A frequent visitor to the US, where he attends academic gatherings on behalf of colleagues denied entry visas, he has rejected the good life for a monthly pay cheque of \$25 and the meagre delights of a Cuban ration book. (Milk, for example, is only allowed for children under seven.)

"Every time I go to the States, the immigration guys go bananas," says Gavilondo, who speaks with an American accent. At least, he laughs, there is no problem with the tax authorities. "If I reported what I earned to the IRS

"I remember very well the conversation when it was explained to Fidel why we needed genetic engineering to produce enough interferon," says López Saura. "Fidel used to follow our progress almost daily. Because we were so far behind developed countries, the only way to close the gap was to work much harder."

Once, Castro asked the young scientists entrusted with producing interferon how many hours they intended to work each day. "And then Fidel said: 'Certainly no fewer than 24.' So we got the message."

The first batches of interferon – a virus-fighting protein – were used to treat internal bleeding in patients struck down by a savage epidemic of dengue fever in the early 1980s. Over the next 15 years, about \$1bn was pumped into creating a Polo Científico, a science cluster, on the lush western outskirts of Havana.

Even during the Special Period, when