A Whiff of Luxury

From a wood, somewhere in England...

The truffle 'industry' is surrounded by mystery and intrigue and this aura is probably maintained by the high prices paid to 'hunters' of these 'free' underground mycorrhizal mushrooms. This year, the mid-price (per kilo) of Summer Truffle is £150 and the Périgord Black Truffle £800. The king of truffles, the Italian White Truffle, is currently selling for between £2,800 and £3,200.

The truffle, prized by man and boar for 3,000 years, grows symbiotically in the roots of trees, most commonly under wild oak, beech and hazel. They are round and warty and found in Europe as far south as Spain and as far north as Sweden. The only variety found in the UK (so far), the Summer Truffle or Truffe de Bourgogne (Burgundy), has been recorded as far south as West Devon and as far north as Darlington.

Since the celebrated truffle-hunter Alfred Collins last hunted around Winterslow in Wiltshire prior to WWII, there has been relatively little truffle harvesting in the UK for commercial gain, until director of Truffle UK, Nigel Hadden-Paton, sent news that an English orchard bearing tuber *aestivum* (var. *uncinatum*) or English Summer truffle was ready for harvesting.

Forestry Journal, or rather FMJ, first met Nigel five years ago. Nigel, an ex-army officer, former farmer, current forester (timber interests in Estonia) who previously won awards from the RFS in the mid-1990s for the best managed woodlands under 1,000 acres, and life-long truffle appreciator, discusses the intervening years.

Nigel decided to grow truffles after reading an article in *Timber Grower UK* magazine in 1998. "I was farming Grade 2 arable land, marginal soil in the Chilterns and was on the lookout for alternative crops. I read that it was possible to grow your own truffles. I thought it was a joke until I met the Kurdish mycologist at Hannover University who, in a 30-acre glass-house site, was inoculating seedlings with truffle spores and planting them out in a forest in France. He wanted £45 per sapling, which was too expensive for me."

Further research led Nigel to the Crop and Food Research Institute of New Zealand (CFR) where Dr Ian Hall was developing commercial growing techniques for edible ectomycorrhizal mushrooms, which includes porcini mushrooms and truffle. "I asked Dr Hall if growing truffles was really possible. He replied that they had done it and that they had produced their first crop of truffle from their own inoculated trees."

Attending a workshop in Christchurch, New Zealand, Nigel spent three days touring the North and South Islands looking at the CFR's truffle producing 'inoculated plantations'. "They were looking for a licensee for their technology in the northern hemisphere and asked if we might be interested. After two years of negotiation, my business partner Adrian Cole [a Chartered Surveyor in Land Agency] and I started Truffle UK in 2001."

Truffle UK established their first truffle orchard (truffière) with 50 infected trees (a goodwill gift from the CFR) in Nigel's Victorian walled garden at his home in Hertfordshire. From a greenhouse laboratory in Dorset, they now inoculate beech, hazel and oak seedlings with tuber *aestivum* var. *uncinatum* (Summer or Burgundy) and the tuber *melanosporum* (Black Périgord) truffle. These are ready for sale as year-old whips to customers interested in establishing their own orchards or as unusual gifts. For the interim supply of fresh truffle, they established links with reliable producers in France, Italy and northern Spain and sourced a range of related products for sale on their website *(www.truffle-uk.co.uk)*.

Eight years on, Truffle UK has three truffle orchards in France; one in Périgord (three hectares) and two (eight hectares) in Provence, the larger of the two forming part of their Truffle Tree Share Scheme. Successful truffle production depends on what the French call 'le terroir', which loosely translated is the PH and structure of the soil, the sun hours, moon hours and rainfall.

Ongoing management protocols vary little from normal silvicultural practices with the exception of 'scarifying' between the rows during the spring of Year 3 and onwards. This assists the movement of mycelia within the orchard and improves the chances of uniform infection. Weed control, whether executed manually or with chemicals, is an essential operation to be carried out in the formative years.

Tom starts to coax Brenda.

Despite the best predictions of the CFR, who found truffle in their orchards at Year 4, none of the truffle-infected whips gifted to Truffle UK (currently in growth Year 9) nor the whips supplied by Truffle UK to a dozen UK orchards in excess of an acre (400 trees per orchard) have yet 'fruited'. So I am surprised to find myself standing beside a top-secret Wiltshire woodland with two men dressed in form-fitting nylon waders, heavy-duty knee pads and gloved hands, spraying insect repellent around their necks and my ankles.

This woodland has been supplying around 40kg of 'wild' truffles per year to Truffle UK since 2006 and is their only UK supplier. 'Farmer G' and Tom Lywood and his truffle-hound Brenda have, at the request of Truffle UK, agreed to show me around the woodland and hopefully offer some insights to aspiring English truffière owners.

Tom Lywood and Brenda have been truffle-hunting and surveying woodlands in Southern England for potential Truffle UK customers since the summer of 2008. They are clearly fans of these well-managed woodlands. Tom says, "Most woodlands I surveyed last week were dark, dense and undermanaged. I got lost in one. I am looking forward to getting Brenda into these woods again before she loses her 'nose'."

Entering the wood, we walk down a gently sloping and dappled track. 'Farmer G' describes a walk in 2004 (growth Year 14). "My wife and I were walking in our woods and she noticed something resembling badger poo on the track. She seemed to know what it was. I was unsure and kicked it. Unlike poo, it was hard and the size of a fist. Looking around, we saw quite a few of these things."

They sent a sample to the mycology department at Kew, who confirmed that they had found English Summer Truffle. "We called a local restaurant and explained what we had found. Within fifteen minutes we had a very excited chef on our doorstep. We met Nigel in 2005. He organised a land survey of all our woodlands, including root and soil samples. He confirmed tuber *aestivum* was present in the original (and most productive) wood. Leading French mycologist Dr Gérard Chevalier reconfirmed that, while our other woods had similar characteristics, no trace of mycelium was present."

Mature truffles are at their most pungent in the early-morning (August to November) dew. Brenda, coaxed back and forth by Tom through a small stand of hazel, works fast. Soon her muzzle is jammed into the earth. Tom catches up, crouches down, sniffs and digs up a golf-ball-sized dirty black gem. 'Farmer G' marks the tree and crawls around the base on all fours, patting the forest floor to make sure that none are missed.

We pass what looks like a concentric crop circle around the base of a beech tree. It is a 'brûlée' (a 'burnt' patch) where the truffle fungus actively burns off competing herbage. Brenda snuffles around nearby hawthorn and again comes up trumps. She tries to chew her prize but Tom is too quick, retrieving a soggy three-quarters of it from her mouth. Undeterred, she runs ahead to the base of a wild cherry. Here Tom tells me to hunker down to sniff the heady perfume, which I do, and in the process unearth a nest of truffles with my derrière. (NB: Nigel says it should be noted that truffle does not associate with either hawthorn or cherry as they are ectomychorrhizal. It is more likely that the truffle found adjacent to these trees is actually associated with either the birch, beech or hazel

nearby).

'Farmer G' is pleased with Brenda's nose. This is the first time that truffle has been found under hawthorn and wild cherry. He says that he would never have thought to look under these species. Today's harvest weighs 3.5kg and some will be sold, via Truffle UK, to chefs such as Marco Pierre-White, Stéphane Delourme of Rick Stein's Seafood Restaurant in Padstow and Neil Carpenter at the Hurlingham Club.

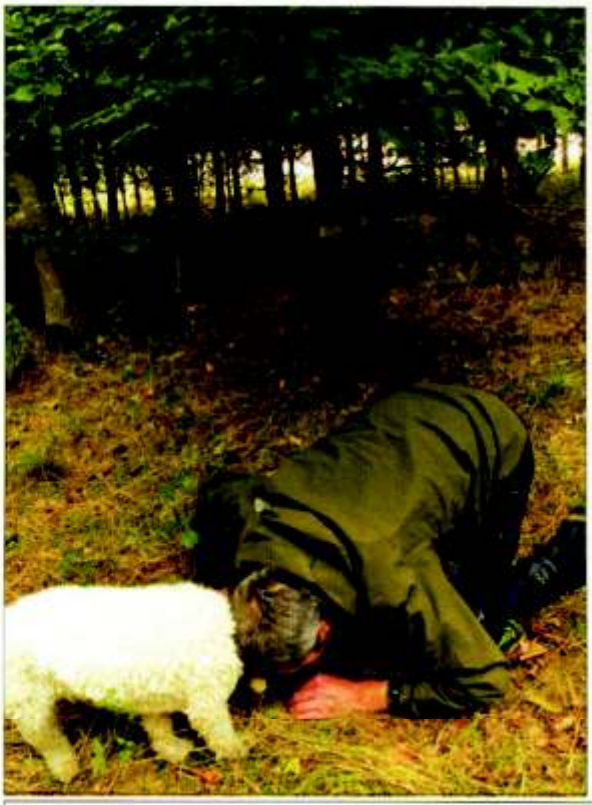
Despite initial expert opinions, all three of these planted woodlands, managed carefully from the start, now produce truffle. The blueprint for managing a 'wild' (or 'infected') English truffle orchard is still a work in progress. This land has (since the 1970s) been farmed in a rotation of two to three year leys. Planting of crops by direct drilling, rather than ploughing, has left the thin layer of topsoil over chalk (excellent drainage) intact. Regular application of fungicides and weed-killer has left the soil clean.

In 1990, a gale uprooted the hilltop beech windbreaks planted in the 1860s and 'Farmer G' applied for a grant under the Farm Woodland Scheme to create three 3-hectare blocks (20,000 trees) of mixed native hardwood woodlands (beech and ash, some hazel, birch, wild cherry, black alder and hawthorn, along with Corsican pine and thuya).

Prior to planting (over six years) 'Roundup' was sprayed in rows and a mole plough used to dig a furrow 18 inches deep, which contractors Tilhill Forestry then planted. Tree shelters protected the saplings against chemical spraying (twice a year for ten years), vermin (rabbits, hares, badgers, grey squirrels and deer) whilst providing increased growth during the early years. Stakes helped locate saplings hidden by grass unmown for as long as possible to reduce ground disturbance.

Failed trees were immediately replanted and overgrown birch removed to allow the light to the forest floor. As the woodlands approach their first thinning cycle, 'Farmer G' is trying different management techniques, thinning in one, lopping in the second. "From our empirical data, truffles seem to like young trees of 15-years maturity. The first wood came on at 15 years, the second (planted two years later) the same, and the third again two years later."

For every truffle harvested, washed, weighed, marketed and sold, there are half a dozen that do not make the grade. "We started spreading 'waste' truffles in our woods in 2005 and by 2007 we found truffle in both. Yesterday I found a truffle where I had never found one before, on a badger run. There was badger poo all over the place."



(Left) Tom bends to join Brenda in sniffing the earth. (Right) Brenda at the base of a wild cherry tree. The heady scent appears almost to make her swoon.

The truffles have been growing for five years, more in some places, less in others. 'Farmer G' suspects he may need to plant more woods now to maintain truffle production in the future and may try transplanting some of the 'producing' trees to see what happens. He says, "When truffle initially appeared, the first question people asked was always, "Where did the trees came from?" I showed a truffle to the local carter who knew every inch of this land. He had never seen one before. I took this as conclusive evidence that the way we treated our soil, the new trees and their subsequent management, had brought them in. I tried to find out where the stock had come from. I was told that the beech and ash may have come from the contractor's nursery. I was never able to confirm this and when I found a truffle in an 'ancient' wood, I gave up speculating."

Tom suspects that November will be the month in which he and Brenda will find most truffles at other, less productive sites. Nigel would like to find a company which has finished quarrying chalk or limestone and wants to landscape an acre of land using his trees. He says, "In nature, a foraging animal will hunt for truffle, and smells when it is ripe and ready for harvest. Animals root them out, eat, ingest and twenty-four hours later the spore comes out the other end. The spores then establish themselves on the roots of a friendly tree in a very hit and miss fashion. If a truffle is not found, its lifecycle comes to a halt. By putting the spore on to the roots of trees, we know that this process happens. And with yearly management checks, we can continue to monitor this process."

For the time being, the fruit of Truffle UK's British 'truffière' labours remains an aspiration. Nigel says, "As with all things in forestry, it takes an investment of time and effort to reap the rewards." He thinks that with patience, sound management and some help from 'le terroir', possibly encouraged by climate change, that he and his customers may, perhaps in growing Year 10, harvest their own.

For further information please go to *www.truffle-uk.co.uk*.

Tom's passion is the truffle 'beast' that lies well below the soil. These he only finds in ones and twos. They look, taste and smell differently. His quest is to find woodland on limestone with plenty of light on the forest floor. For hunting contact: *www.tomlywood.com*.

Carolyne Locher

Cut truffle reveals good edible colour; beige marbling with white veins.