

In the afternoon the delegates visited Stephen and Lynn Briggs at **Whitehall Farm**, Ramsay Road, Farcet, Peterborough PE7 3DR. Stephen and Lynn grow organic cereal crops between rows of apple trees. The 106 ha farm has been held on a 15-year tenancy from the local council for approximately 9 years, and was converted to organic production at the start of the tenancy.



Delegates at Whitehall Farm (photograph: P Burgess)

The soil across the farm is characterised by high organic content (up to 23% in places), although in parts of the farm it is brick clay. It is low lying, being only 3 miles from the lowest point in England, and some of the farm is on the site of a dried up lake. There is a managed water system across the land. Annual rainfall averages 600 mm, although this varies from year to year (and in 2012 totalled 2½ times this value).

Stephen and Lynn planted a 52 ha agroforestry system with apple in order to minimise the wind erosion of the soil that was occurring when they obtained the tenancy. An organic rotation without trees is practised on the remaining 54 ha of the farm, and this allows comparisons regarding the effect of trees. Trees of 13 late-maturing varieties of apple (9 commercial and 4 traditional) on semi-dwarf rootstock were planted 3 m apart in rows orientated north east/south west in October 2009, with a single variety in each row. Planting was at an estimated cost of £10 per tree plus labour for the 4500 trees. The rows are 3 m wide and 27 m apart, giving alleys of 24 m that have been sown with organic crops.

Within the tree rows, the density of trees is 1111 trees ha⁻¹, giving a higher density than in conventional orchards, although across the centre part of the fields the density is only 123 trees ha⁻¹. Because trees cannot be planted within 12 m of ditches, the actual tree density across the agroforestry part of the farm is nearer to 85 trees ha⁻¹. Grant support was available for fruit tree planting, whereas planting timber trees would have resulted in the farm becoming forestry, making the tenants liable to their landlord for dilapidation. Stephen and Lynn obtained Higher Level Environmental Stewardship grants from Natural England, with options for growing wild bird, pollen and nectar mixtures of plant species and overwintering stubble, margins round water courses, field corners, educational visits and hedges. They have also taken advantage of the Research and Development Tax Relief Fund from HMRC, as the tenancy was run as a new, developmental system.

Before planting saplings, the tree rows were sown with a wild flower seed mix, with legume species included. The species were ox-eye daisy, knapweed, red campion, medic, red clover and white clover (and sainfoin in one of the fields). The saplings were then planted into predrilled and staked holes, with each row comprising only one apple variety. A wire mesh tree guard was put round each sapling, and is still in place, and a plastic mulch mat was inserted round the base of the stem. Stephen emphasised that if he was planting the area again he would have chosen higher quality stakes to minimise replacement costs. The saplings were initially damaged by pigeons sitting on them, so 3 m canes were put by each tree, to encourage the pigeons to sit there instead. This successfully addressed the problem. The trees are pruned annually in winter to a goblet shape, to maximise light interception, and are kept below the height of the canes. The apples have been pollinated in the past by honey bees from local commercial beekeepers, although Stephen and Lynn have recently introduced their own hives. These will be operated to maximise pollination, not honey production. The trees provide shelter from the winds, an effect that was quite noticeable at the time of our visit.

The apples are picked after the harvest of the crops in the arable alleys, in individual crates for each row (*i.e.*, for each variety), and are kept in cold store. They are sold to an East Anglian cider producer or are made into the farm's own label apple juice, either as single variety juice or as blends. In future all of the crop will be kept for home sales, and Stephen and Lynn are currently building a farm shop on the roadside frontage of their farm to sell their produce to people from the nearby town of Peterborough and local villages.



Oats (winter variety, but sown in April) in arable alleys between apple rows

In the past the arable alleys, and the fields outside of the agroforestry area, have grown organic wheat, barley, oats, broccoli, cauliflower and sugar beet. They have also grown leeks and beetroot. In the current year there are no vegetables as it is proving to be impossible to compete with large scale producers for these crops. This year oat and wheat are being grown in the agroforestry area, and in other parts of the farm. The oats will be sold as certified gluten-free seed to a mill near Huntingdon, and the wheat will be sold to a consortium of windmills for organic Cambridgeshire-grown and -milled flour. Yields of 6-7 tonnes per hectare are expected. The straw will be sold for organic mushroom production, and some of the spent mushroom compost will be bought back for incorporation into the land. The only other additive is 'compost tea'. The natural microflora of the soil is atypically dominated by fungi, whereas normally arable soils are dominated by bacteria, and the compost tea should help increase the bacterial component.

At the time of our visit one field was fallow, as it had been ploughed because of the density of perennial weeds such as thistles. It will be planted with a cover crop over winter, and then go into the cereal rotation in spring 2018. Weeds are controlled annually with a Garford camera-

controlled hoe. Mixtures of legumes and grasses are sown for building soil fertility, and lucerne now grows extensively on many of the fields.



Apple tree row with fallow alleys

The wildflower cover in the tree rows and round the field edges gives nectar-bearing flowers across an extended flowering season. At the time of our visit there were small tortoiseshell and ringlet butterflies in evidence, although 2017 has so far been a bad year for butterfly numbers. There were also considerable numbers of solitary bees, and 'bee hotels' made of chopped canes (and also old straw bales) have been provided round the farm. The farm has also become a site for many birds, including some red-listed species such as tree sparrow, reed bunting, lapwing and skylark. The barn owl population in particular has risen noticeably since the tenancy commenced. During our visit skylarks were singing, and a red kite was hunting over the fields.

David Pilbeam, June 2017

The Farm Woodland Forum previously visited Whitehall Farm during its 2011 annual meeting, and a report on that visit is included in the report of the 2011 meeting.