

Direct Seeding Shelterbelts.

Peter and Margaret Hirth, Werneth

Peter and Margaret Hirth have been direct seeding shelterbelts on their property, "Glen Cairn" at Werneth since 1991. They were encouraged initially by Department of Agriculture extension staff who suggested using direct seeding as an establishment method.

Peter wanted to reduce the effect of the wind on his crops. He felt it was important to minimise the wind erosion and sand blasting that was happening on his sandy soils.

Peter has found the method that he uses to be very reliable with only one unsuccessful plantation in seven years. His preparation involves boom spraying the weeds, mainly ryegrass and cocksfoot, with 1.5 l/ha Roundup CT in June or July and again at the end of August. This second spray also has an insecticide (Lemat® or Fastac®) added for Red-legged Earth Mite control.

He does not deep rip and times the sowing for a day in September when rain is forecast soon after seeding is finished. Peter uses a seeding rate of 250 gram of mixed seed per kilometre of line.

Peter with direct seeding done 6 months previously



The boom spray strip of twelve metres is the width of the plantations and four rows are placed two metres apart within it.

The seeding machine used is home built, tractor pulled, with a single mouldboard plough, cultivator tynes and a simple seeding box. The seed is pressed in after seeding using a four wheel motor bike.

Peter collects most of his own seed and some is bought from Ballarat Regional Seedbank. The species used are Sugar Gum (tall & dwarf), Black Wattle, Blackwood, Wirilda, Cootamundra Wattle, Drooping Sheoak, Yellow Gum, River Red Gum, and Tagasaste.

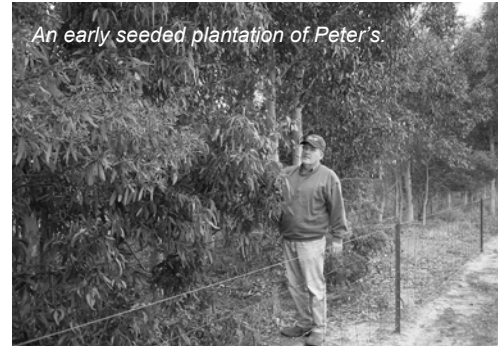
The stock, pastures and crops are benefiting from the shelter with less destruction of plants from sand blasting. Peter has also noticed more birds on his farm since the shelterbelts have increased in height.

Peter considers that the keys to success are thorough, timely weed control to produce soil moisture to depth, and good fencing. He is adamant that if there is not enough moisture, then it is not worthwhile seeding.

Tim Bingley, Werneth

Tim Bingley, also at Werneth, has been direct seeding for ten years. Tim believes that direct seeding works well on the lighter soils but not on the heavy cracking clay country. Tim was initially influenced by Richard Weatherly from Mortlake. He has used Richard's diverse seed mix of forty species.

Tim established his first plantation on sandy loam adjacent to Two Bridges Road. This site was boom sprayed in the winter of 1993 with Roundup at 1 l/ha, for a second time after the summer rains in 1994 and again in June of that year. (Tim now includes Simazine in the autumn herbicide spray, prior to a spring seeding.)



An early seeded plantation of Peter's.

The site was sown in October 1994 using the Hamilton Tree Seeder at about 300 gram of seed per kilometre. The weather was very dry before seeding but there was adequate moisture in the soil, produced by the spraying regime. Tim's weather records show that there were frequent showers after seeding for about 6 weeks and summer thunderstorms in late December and early January to keep the soil moist.

Tim noticed seedlings appearing in October, November and December and there was a good strike evident by January. Follow up thunder storms in March after a dry, hot summer and general rains in April provided ongoing moisture but also encouraged grass growth. This was treated with an overspray of the grass-selective herbicide, Fusilade, along the tree lines in May.

The shelter belts are providing shelter for stock, food and shelter for birds and insects.

The species which are most successful are Sticky Wattle, Black Wattle, Ovens Wattle, Wirilda, Golden Wreath Wattle, Southern Mahogany, River Red Gum, Sugar Gum, Bog Gum, Yellow Gum, Swamp Gum, Yellow Box, Manna Gum, Giant Honey Myrtle, Totem Poles, Swamp Paperbark, Salt Paperbark, Coast Tea Tree, Black Sheoak and Drooping Sheoak.

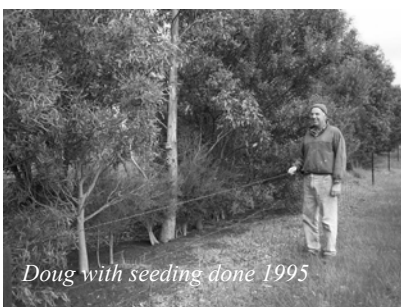
Doug and Judy Hucker, Cape Clear

Doug and Judy Hucker at Cape Clear have established shelter belts by direct seeding on three different occasions. They have tried different machines and methods to compare the results. They have also planted seedlings in some years to create an "instant success" look. (Planted seedlings may also be used to complement direct seeding of narrow shelterbelts by filling any gaps.)

The Huckers establish plantations for shelter and environmental benefits but particularly to encourage birds. Their first direct seeding was in 1995 using the Hamilton Tree Seeder. The area was sprayed with Roundup in early September and for Red-legged Earth Mite just before seeding.

The seeding was done on 17th September with some rain recorded every few days for several weeks after sowing. Germination was noticed a month later and in March 1996, Sugar Gum, River Red Gum, Sheoaks, Blackwood, Golden Wattle, River Bottlebrush and some Honey Myrtles had germinated.

By 2003 the belt is providing excellent shelter and is frequently used by birds. Manna Gum, Bog Gum, Sugar Gum, River Red Gum, Red Honey Myrtle, Bracelet Honey Myrtle, Moonah, Drooping Sheoak, Blackwood, Wirilda, Black Wattle and Golden Wattle are all doing well.



In 1998 Doug experimented with three seeding machines. These were the Hamilton Tree Seeder, the Rippa Seeder and the Rodden Scalping seeder. All three are tractor drawn with three point linkage. The Rippa Seeder has an eighty centimetre scalping V-blade with a ripping tyne and a dual bin revolving drum seed box. The Rodden Scalping Seeder is designed for low rainfall non-wetting sandy country and has a metre wide V-blade which provides a weed free scalp and also harvests water.

Care was taken when using the machines to have soil blocks every fifteen metres or so to reduce the possibility of an erosion gully forming after heavy rain. The seeding has been successful in all three rows with the Rodden Scalping Seeder line having more plants per metre. This may be due to more weed seed being removed and possibly the water harvesting factor.

In 2000 Doug again had a small trial of two different methods. This time he used the Hamilton Tree Seeder alongside a mouldboard ploughed section sown by hand broadcasting of the seed. Both

methods have worked well with seedlings in the mouldboard section being particularly thick. The Huckers are thrilled with the shelter benefits of their plantations and with the number of birds encouraged onto their farm.

Conclusion: These sites have shown that direct seeding works. It is an easy efficient revegetation technique particularly suited to large sites and broad shelterbelts. It is essential to plan well ahead and have good weed control to produce plentiful soil moisture.

Some of the species used in these case studies are not indigenous to the Woody Yaloak catchment and may be environmental weeds. It is recommended to follow the species guidelines provided by the Corangamite Native Vegetation Plan and use indigenous species of the ecological vegetation class occurring in each area.

The information and opinions expressed in Fact Sheets represent actual experiences as described by those interviewed and are not to be interpreted as recommended treatments of Alcoa World Alumina Australia or Greening Australia and may not be appropriate for all situations. Seek local area advice. Compiled by C. Dennis.

