

Ground Penetrating Shovel

Instead of a round or square mouth shovel we have been modifying round mouth shovels to create an effective tapered garden tool that is easy to use to dig holes, sever most roots where required, remove weeds, even to dig and lever out larger weed species like lantana and small privet. The **tapered shovel** features wide steps as well as providing excellent ground penetrating properties by minimising resistance and soil disturbance. These shovels are suitable for light, medium and/or heavy-duty applications in the garden, camping, 4WDing, at work and/or in bushland situations to help remove many of our larger weed species.

The Ground Penetrating Shovel is ideal for digging holes in most soil types, to break up garden beds, for planting seedlings and/or trees. It can also be used for transplanting small trees. The concave tip is suitable for removing smaller weeds with a twist of the handle and weed grasses etc. from the bush, lawns or even weeds growing in the grooves in concrete. The sharpened concave tip is also suitable for severing side roots under the surface of larger weed species to allow the shovel to penetrate under the plant to lever the plant out of the soil by pushing down on the handle. Weed seeds should be collected and binned where possible. The branches can be chopped down to a height that can easily be stepped over, to provide good ground cover over any exposed soil. On mild sloping surfaces laying the individual branches across the slope will help to retain moisture by collect leaves above the branches on the ground. Establishing an effective cover especially over any exposed soil will reduce weed infestation, stabilise the soil, reduce erosion, improve soil moisture and humus quality suitable for growing native plants.

Another recent handy feature of the shovel is a hook facility on the side of the blade to enable the user to remove branches or other debris easily.

With bush regeneration activities, using manual clearing techniques including tapered shovels to remove lantana and other weeds is slower but usually more effective than using a bulldozer at controlling the weeds.

- **Manual Clearing** can effectively remove the viable crown of the weed root which means that there is only a low risk of regrowth. An interesting note is that the severed side roots of lantana and many other weeds left in the soil are not able to survive. Manual clearing also means that there will be little to no impact on the remaining native plants allowing them to thrive and grow better once the weed competition has been removed. (Slow and steady really can win the race.)
- **Mechanical Clearing** using heavy machinery to clear weeds can clear most of the vegetation quickly but will damage the top soil and expose the soil which is likely to increase the risk of erosion and invite a swarm of invasive weeds to be introduced including any weed seeds that may previously have been trapped or left on the equipment. Mechanical clearing is also likely to severely impact or totally destroy any native plants that may be in the work area. Later any remaining root systems of the weeds below the soil are also likely to reshoot requiring extensive follow up treatment again later.

Previously one of our early FEP volunteers Euan McLean brought an old, long handle, concreter's shovel to Nielsen Park to carry out bush regeneration work. The old, rusty shovel was well worn with a concave tip. Much to Euan's surprise he found that the old shovel was easier to use to dig into the ground and to sever the roots. Euan went on to design and modify other shovels eventually developing the **Root Blade** with a long handle. I then started to modified short handle shovels with a similar tapered shape as I found the shorter shovels were easier to transport and to use. The current shovels are made in China and modified in Australia to suit Australian conditions.

Other Possible Uses

The tapered shovel is also ideal for many other purposes including:

- **Camping** - They are compact and easy to use to dig holes or a trench around the high side of a tent to help keep water out, etc..
- **4WDing** - If the vehicle becomes bogged the shovel can clear obstacles, sand, mud or snow. If changing tyres the shovel can be used as a lever to take the weight of the wheel to help remove it from the studs and especially handy when fitting the wheel on by helping to line up the holes with the studs again by moving the handle back or forward as required. Once the nuts are off, slide the blade of the shovel under the tyre and push down on the handle with one hand to slightly lift the wheel, whilst manoeuvring the wheel off the studs. Steady the wheel with your free hand at the top of the tyre and slide or drag the shovel, with the wheel still sitting on it, away from the studs. Reverse the procedure to replace wheel. Using a shovel is a real back saver, particularly with heavy wheels.
- **Fossicking** - Fossicking is the small-scale search for, and collection of, minerals, gemstones or mineral-bearing material from the surface with hand-held implements only. The tapered shovel is light enough and easy to use to help dig out gems or other treasures.

For more details contact Greg Lukes, FEP volunteer 0428 288 077 or glukes@bigpond.com

