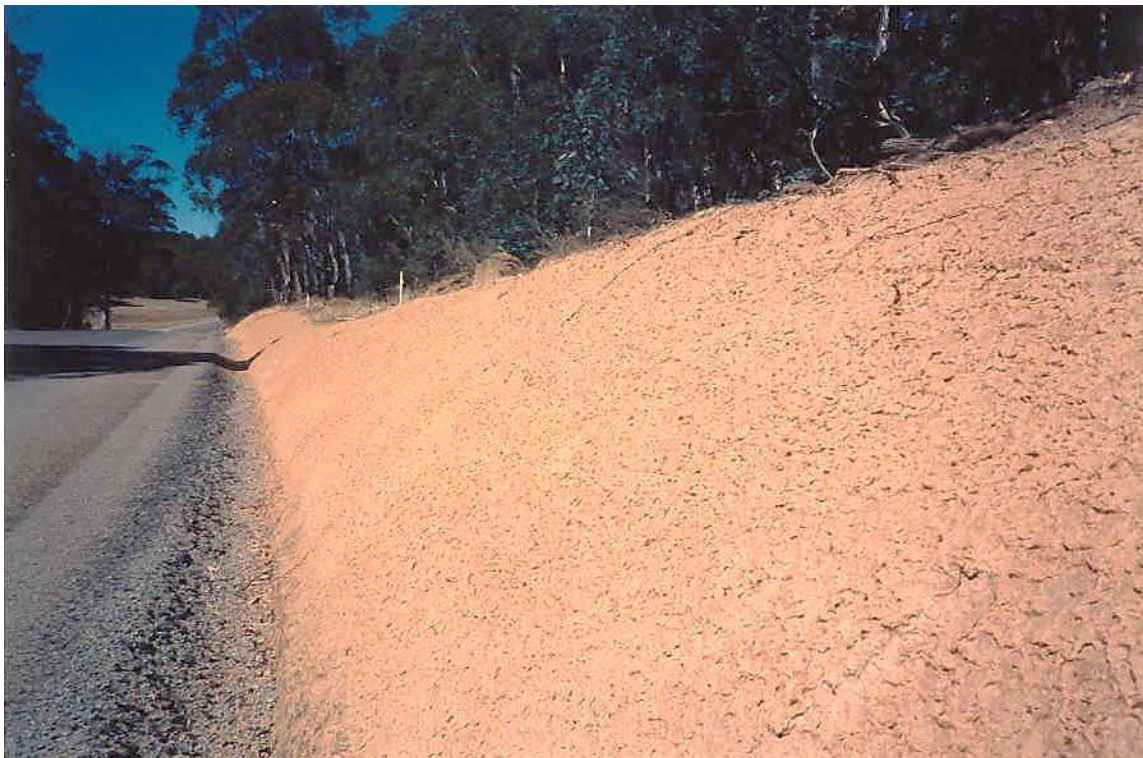


Spray-on revegetation methods have a multitude of applications in the environmental and construction environments. Whether native grassing or native tree and shrub applications, Aquaseeding's spray on treatments have it covered. The ability to cover large areas quickly and provide a favourable environment for successful germination of native species, provides a cost effective solution to traditional approaches.

Bonded Fibre Matrix (BFM) is the application of seed, fertiliser, sugar cane mulch or wood fibre mulch and a tackifier/binder in a water based slurry at rates typically above 3500kg/ha. BFM hydro mulches are heavy duty hydro mulches which offer increased erosion protection, longer term soil surface cover and more effective vegetation establishment.

When using a BFM it is important to ensure that the seed is applied first to the surface of the soil generally through the method of hydroseeding and then the BFM mix is applied ensuring there is good seed soil contact. Although this method has an increased cost due to the two-step process, it does provide the best result to reduce soil erosion and improve plant germination.



Hydromulching equipment

Aquaseeding has trucks with a tank capacity of either 8000l or 2000l. The larger tank increases the speed and efficiency of application on large sites, but the smaller tank allows for ease of access in restricted height/access areas. This means we can undertake any scale of work in a safe and efficient manner, while meeting project deadlines.



Site Preparation

Hydromulching should take place after the final slope shaping and topsoil placement has been completed and the prepared surface should be free of weeds and large stones.

Standard Application Rate

- ❖ Long length organic fibres such as straw chaff @ 70% and Cellulose mulch @ 30%. Typical application rates range from 3,500-6000Kg/ha. These are to be applied in a aqueous slurry using 50,000-160,000 litres per ha.
- ❖ Seed as per the supplier's recommendation. Typical seeding rates are 100-400kg/ha of exotic species and 5-20kg per ha native grasses.
 - The seed mix will vary according to the season, soil condition and location.
 - The longer the seeds are mixed in the slurry tank, the greater the potential for breakage and for this reason the seeds are added immediately before application.
 - Fertilisers dependent upon soil analysis with typical requirements of 5-10l per ha of a pre starter fertiliser. Adding a fertiliser can reduce the germination of certain native species due to the effects of fertiliser salt on seed imbibition. Therefore a humic acid is used to promote microbial soil activity when using native species @ 5l/ha
- ❖ Dye is used as an indicator to the operator to ensure a uniform coverage
- ❖ Tackifiers between 4-7 kg per ha depending upon the degree of slope. Tackifiers are sticking agents that bind soil particles together and protect the surface from wind and water erosion. When applied with hydraulic mulch, tackifiers increase the effectiveness of the mulch as a soil cover by binding the hydraulic mulch fibres and the surface soil particles together. Tackifiers create water stable surfaces, which means they are capable of repeated wetting and drying and do not lose strength after a series of rain events.

Advantages of Bonded Fibre Matrix

- ❖ BFM hydro mulches can provide 100% soil cover providing the surface is not too rough with an application rate of 3,500kg/ha. This method is appropriate for all terrains because the BFM follows the contours of the surface perfectly.
- ❖ This method of application creates soil cover mulch that will not restrict seed germination or plant growth. Applying too much cellulose can result in a soil surface that has the consistency of paper Mache (application rates of greater than 1500kg/ha). The long fibre structure of BFM ensures there is no reduction in infiltration and air exchange.
- ❖ BFM mulches have a very high water holding capacity, over 1000 times their weight in water. A kg of wood fibre mulch, for instance, absorbs between 4-5 litres of water. This means that the mulch stays wetter for longer and requires less irrigation than normal seeding practices.
- ❖ BFM provide increased erosion protection for a period of up to 1 year and reduction to minimum erosion from raindrop splash and flowing water.
- ❖ Improved plant germination due to the increase in the water holding capacity of the mulch. The mulch also increases humidity levels and improves soil temperature again reducing germination time.
- ❖ Provides a long term cover for slow growing species including the majority of native species. Germination rates for these types of native grasses and shrubs have an increase in germination by around 90% compared to standard seeding practices.
- ❖ Soil ameliorants and fertilisers can be applied as part of the process.
- ❖ Combining the spray on techniques with the traditional hand planting methods for tube stock, and larger trees is a valuable addition to completing projects when access is poor or even unsafe.

