Forest Practice Guide
Non-Regulatory

Vegetation to Manage Erosion 5.2 Hydro-seeding

Hydro-seeding can be used to rapidly establish a vegetation cover, to protect exposed soil from sheet and *rill* erosion. It can also be used as a *stabilisation* tool to minimise *sediment* entering water.

A mixture of water, seed, fertilisers, organic binders and *mulch* is sprayed onto the surface to be vegetated. The binders and *mulch* improve the strike rate and reduce the opportunity for seed to be washed or blown away. In good growing conditions, with the right seed mix on a suitable site, grass strike can be within about 14 days.

Hydro-seeding is expensive, so it is often reserved for high risk sites where conventional grassing techniques would be inadequate.

Although hydro-seed can be applied to almost any surface, it can still be difficult to get a good strike and good growth on:

- Dry sites such as steep cut banks, earthworks with dry aspects, and areas with hot, dry climates.
- Low nutrient sites such as many cuts and *fills*.

As with other grassing techniques, hydro-seeding can only protect the soil surface. It does not provide erosion control for soil slips or other deeper-seated erosion features.

Good example of hydro-seeding on a steep roadside.

Cut *batter* being hydro-seeded to assist *stabilisation*.

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A Where and when to use

1. On critical sites, such as steep areas and on infertile soils where conventional sowing methods don't work and there is a need to establish a rapid vegetation cover.
2. When seasonal timing is less favourable for conventional seed sowing methods.
3. When establishment of a protective vegetation cover faster than conventional grassing is required.
4. When road construction, water control, and erosion and *sediment* control structures are completed (if necessary).
5. When growing conditions are good. It still requires moisture, correct soil temperature and sunlight for germination and growth. Early autumn is often best. Newly germinated seed will die without good root structure if soil moisture is lost.

B Where not to use

1. Applications on steep cut faces with a *smooth glazed surface* and non-cohesive soils on steep *batters* as the hydro-seed layer will peel off with gravity, wind or water.
2. Application in late spring (due to equinox weather conditions such as gales or long dry periods), as germinated seeds can easily die off as root structures have not had a chance to develop.
3. Delay hydro-seeding if heavy rain is forecast. The rain can wash hydro seed off, especially from smooth surfaces and in water flow paths. Check the Metservice ten-day forecast.

C Design

Refer to the "Where and when to use" section.

D Construction

1. Use a dry-tolerant and deep-rooted seed mix (deeper rooting legumes) to reduce the risk of hydro-seed peel-off.

E Maintenance

1. Prepare a routine maintenance plan including heavy rainfall response measures.
2. Inspect regularly for the first two months to assess strike rate and growth.
3. On critical sites where the original hydro-seed has failed, consider the need to reapply hydro-seed. Assess why the hydro-seeding did not strike or grow on the site and whether the timing is suitable for reapplication.

F Other methods

1. Use hydro-*mulch* on critical areas such as loose soil in close proximity to sensitive sites such as *water bodies*.
2. Use grassing as a cost-effective alternative, especially on easier to strike areas.
3. Use hay *mulch* and grass seed or *slash* as an alternative.
4. Polymers can also be applied to lock soil particles together and therefore prevent erosion of the surface.

National Environmental Standards for Plantation Forestry

Particular relevant regulations for soil *stabilisation* are: 32, 55, 60.

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Examples

A recently hydro-seeded *fill* slope.

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Success of hydro-seeding is dependent on weather and soil moisture conditions. Hydro-seed has germinated only on the lower section of this cut *batter* where soil moisture was highest.

Contact

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Other Practice Guides in this series

- 5.1 Grassing
- **5.2 Hydro-seeding**
- 5.3 Applying Mulch
- 5.4 Slash

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