



HYDROSEEDING



Widespread situations of environmental degradation and the attention paid to environmental problems have given us the opportunity to develop adequate instruments for environmental clean-up to restore landscapes and to guarantee soil stabilization. Such restoring interventions for the reclamation of degraded areas and the ever increasing attention paid to the problem of the hydrogeological maintenance of areas at risk have led to the development of a specific technique for the grass planting process: **HYDROSEEDING**.

WHAT IS HYDROSEEDING?

Hydroseeding is a grass planting system suitable for every area and surface (slopes, ski runs, dumping grounds, embankments, reinforced earths, etc.) that over the last few years has also been employed successfully in the agricultural field for grass planting in vineyards and for establishing new lawns from seed.

HOW TO DO HYDROSEEDING

A slurry of fertilizers, seeds, tackifiers, mulch, activators, etc. is sprayed on the designated areas with the appropriate equipment (comprising of a tank, a pump, a fire-fighting cannon).

The slurry, mixed by a mechanical agitator in the tank, is quickly applied even on the steepest surfaces with a long-range cannon or a hose. Hydroseeding, that is to say the formation of turfs with a strengthening function, should be considered a specialized system requiring the use of advanced machinery and products, and it represents the fundamental means to any intervention for the preservation of the environment.

As for the technical advantages of hydroseeding, suffice to think of the double action of the grass blade and the root system : the first protects the soil from wind and rain erosion; the second improves the physical and chemical structure of the soil, consolidating it and preventing further wash-outs that would lead to more serious erosion problems.

As for the economic aspect of hydroseeding, its advantage over conventional techniques is undisputed, first of all because it is the only system that allows to successfully establish vegetation on inhospitable sites, secondly because seeding, fertilization and irrigation can be all executed in a single operation without soil preparation.



Hydroseeder mod. 1000 LH



HYDROMULCH WITH GREEN WOOD FIBERS

Hydromulch with wood fibers mulch (**organic protective covering**) allows to establish vegetation on such surfaces where it wouldn't otherwise be possible to obtain satisfactory results with traditional hand-seeding. Mulch reduces erosion and creates a microclimate that enhances and promote growth and root development.

Mulch can absorb a substantial amount of the water slowly released to the soil, thus creating a greenhouse effect that improves germination. Moreover, the green dye helps to monitor the application and immediately leaves an appearance of grass on the treated surface. This method consists in **executing hydromulching** with protective coverage in **one or more steps**, using eco-friendly products that *don't alter the ecosystem*.

The following products are required for this kind of hydroseeding:

1. a mixture of selected seeds with an application rate of 35g/m² up to 50g/m²;
2. fertilization with a balanced mineral-organic product (10-5-15+2MgO) with an application rate of **80-100 g/m²** under normal conditions;
3. highly viscous tackifier (**FULL-TACK**) of organic origin, derived from **Guar** plants and fruits, with an application rate of 7-8/m² to stabilize slopes up to 1:1;
4. application of a protective covering of **MULCH HYDROFIBRE**, composed of thermally defibrated **long virgin wood fibers**.

Length of the fibers: ca. 10 mm for 50% of the total. Application rates: from **120 g/m²** under normal conditions up to **250 g/m²** for a complete coverage of the soil under particularly critical conditions



HYDRAULICALLY APPLIED BLANKET (H.A.B.) HYDROMAT M.F.L.



Surface covering with anti-erosion matrix through mechanical spreading in one or more step with a hydroseeder equipped with paddle agitator and special nozzles to ensure long-distance application and the uniform spreading of the mixture. The hydroseeding will be composed of:

HAB HYDROMAT® composed of:

85% thermo-mechanically produced virgin wood fibers, 10 mm long for more that 50% of the total
10% pre-mixed natural polysaccharide tackifier creating stable bonds between fibres and soil. Full Tack is highly viscous and doesn't wash out if rewetted; this makes the bonded fibers resistant to erosion.

5% synthetics fibers.

All of the constituents of **H.A.B.** are 100% natural and come all in one package.

Other constituents must be added to H.A.B. depending on the characteristic of the site to be treated; the type and quantity of the product can vary on each occasion.

- Seed mixture suitable for the local conditions; application rate 40 g/m².
- Balanced organic-mineral fertilizer; app.rate t 150g/m².
- Granular humates with 80% of organic matter; app. Rate 100g/m².
- Water; required amount: 7 l/m². Approx.
- Biostimulants, soil amendments, etc.

HYDROMAT® can be applied also on uneven slopes.

The amount of HYDROMAT® must never be less than 370-400 g/m² in order to obtain a perfect soil coverage and perform its water retention activity (more than 10 times its own weight) to create a microclimate promoting germination.

The coverage with H.A.B HYDROMAT must not present any void wider than 1 mm.

HEAVY HYDROMULCHING With organic matter and the wood fiber MULCH

The heavy hydromulching system allows grass planting even on very steep slopes, sterile soil lacking organic coverage and active sub-soil, reinforced earth structures, coverings with three-dimensional geonets and wire nets.

Compared with "traditional" methods such as straw and bitumen, etc., this hydroseeding system has obtained excellent results, both technically and economically.

This method consists in carrying out **in one or more steps heavy hydromulching** using only natural products that don't alter the ecosystem.

The application of this system is carried out by using the following products:

1. a suitable mixture of selected seeds (Graminaceae and Leguminosae) with an application rate varying from 35 g/m² under normal condition up to 50 g/m² under difficult conditions for germination;
2. basic **fertilization** with a balanced **mineral-organic** product and microelements, with an application rate of at least 200-250 g/m² in normal conditions, granular humates with 80% of organic matter, with an application rate of 100 g/m²;
3. **HUMUS**, an organic matter that, together with mulch, forms an ideal substratum for germination and seed development;
4. **FULL TACK**, a highly viscous organic tackifier ; application rate approx 15 g/m²;
5. application of a protective cover (200-300 g/m²) of **MULCH** composed of:
 - **70% HYDROFIBRE virgin wood fibres.**
 - **30% HYDROMIX** mixture of thermally treated vegetable fibres, composed of straw and cellulose.
 This mixture acts as a waterabsorbant, reduces wash-outs and protects the seeds from atmospheric agents creating a microclimate conducive to germination.
6. Biostimulants, water absorbants, soil amendments.

The **heavy hydromulching** system provides a solution for those problems connected with soil sterility, slow grass growth and difficulties in the grass planting process during critical periods.

The composition and the quantity per m² can vary depending on the environmental situation of the area to be treated

