

VETIVER FOR THE PREVENTION OF HYDROGEOLOGICAL INSTABILITY AND ENVIRONMENTAL DISASTERS



From left to right: Giuseppe Mannelli, Dino Galeota, Guido Giordano, Benito Castorina, Emiliano Orsolini

On the 11th of May the Conference "Plants for the preservation of our planet" was held at the State Secondary School Leonardo Da Vinci in Terracina. Students and their teachers listened attentively to presentations describing the innumerable applications of vetiver for environmental rehabilitation.

The Conference opened with a brief introduction to vetiver describing its unique characteristics: a perennial herbaceous plant, an evergreen, with a root structure which develops only vertically and reaches a depth of up to 5 meters, has a resistance equal to 1/5 that of steel and the capacity to perform its function in any type of terrain, resisting in acidic and basic soil (ph 4-12), in saline areas and at extreme temperatures (-10°C, +45°C).

Vetiver Technology is an actual science that uses the characteristics of this plant to address and resolve a number of environmental problems: hydrogeological instability, recovery of ground water, reduction of CO₂ which is the cause of global warming, decontamination of land polluted even by atrazine and heavy metals, and phytodepuration. Moreover, a gas which is 60% hydrogen can be obtained from vetiver biomass.

It was explained how vetiver decontaminates landfill sites and helps to reduce the process of desertification, which in many areas has depleted the soil to the extent that its only function is to provide mechanical support for plants, forcing farmers to employ fertilizers. The essential oil which can be extracted from its roots creates a good humour, stimulates creativity, and has the ability to render any other type of oil soluble and for this reason it is employed a great deal in the pharmaceutical and cosmetic industry as it simplifies processing.

During the Conference, videos were shown related to research and interventions with vetiver carried out by Italian Universities and Research Centers. Dino Galeota held students' attention not only presenting impressive scientific information about the plant but also spurring them not to delegate to others but to take an active part in defending the environment. Emiliano Orsolini demonstrated the use of a ready-to-

use vetiver hedge in slope consolidation. Giuseppe Mannelli showed how vetiver can be used to trap insects. Alberto Fulgoni and Constantino Rapagnà sent their contributions which were presented by Benito Castorina: the first on the use of vetiver as a source of energy in the production of pellets; the second on the integration of environmental engineering and Vetiver Technology. Benito Castorina illustrated the way in which vetiver can be used to reclaim polluted land in the Sacco River Valley, and to raise the banks of canals in the Pontine Reclamation. He advised students to visit the website <http://www.vetiver.org/> for detailed information from a reliable source. Guido Giordano was the perfect moderator, enriching the presentations with examples of interventions and experiences in which he was personally involved, and pointing out that the versatility of this plant and its multiple applications result in interventions which constrain costs and create jobs and well-being, helping to improve the quality of human lives and the environment.

A high point towards the end of the Conference was when the students, encouraged by a teacher, shouted "Viva il vetiver!", followed by questions and comments from two of the students, Chiara and Matteo, who were applauded by all present.

The Conference concluded with speakers exhorting students to become more aware of the environmental problems around them, to learn to recognize virtuous solutions and to play an active part in the defense of the planet, both as citizens (and children, relatives and friends of citizens) and as promoters of sustainability in their future roles as workers and decision makers.



The RAI videos shown during the event:

- VETIVER FOR THE PRODUCTION OF HYDROGEN
- VETIVER FOR THE RECLAMATION OF THE SACCO RIVER VALLEY

(Prof. Sergio Rapagnà, University of Teramo)
(Prof. Andrea Cappelli, University of Rome1)

- VETIVER FOR HYDROGEOLOGICAL INSTABILITY

(Prof. Guido Giordano, University of Rome3)

Recommended website: <http://www.vetiver.org>