

Insubria University awarded for pollution-eating super-plant

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This "magic" plant can not only resist weedkillers but can also reduce the polluting substances in the ground and in the water table. This is the result of the work of Gianluca Molla (see photo), a researcher at Insubria University; his discovery has brought him the prestigious Mario Rippa Award, which he received on 9th April, in Parma. Molla works at the research centre The Protein Factory, which was created by Insubria University, in cooperation with the Polytechnic of Milan, and it is here that he developed the study that was selected by the Italian Society of Biochemistry and Molecular Biology, who award the prize every two years.

But what does this innovation exactly consist of? "In farming, it is very important to obtain plants that have a commercial purpose, such as corn or and soybean, that are resistant to weedkillers; the agricultural company Monsanto has registered several patents of this type" explains Molla. "But the distinctive feature of our system is that it uses an enzyme that protects the plant, and can also reduce the polluting factors of the weedkillers, before these spread into the environment."

The bacterial enzyme in question, which has been improved by the researcher from Insubria, is glycine oxidase, which was identified and modified at Insubria, and was then given to the University of Perugia for the practical application in some model plants. At the moment, the colleagues in Perugia are testing the use of the enzyme in alfalfa, and have had some success, and they may use it later in other types of vegetable.

Molla's research will continue along the lines of using the enzyme in production sectors, with the innovative idea of using them to reduce any environmental impact. "For example we can reduce the polluting factors caused by the synthesis of drugs; here, we are trying to invent new production processes, that, with the assistance of the enzymes, reduce the toxic and polluting factors."

This idea of green biotechnology will, at least in part, allay the fears of consumers that emerged recently when the European Union gave the go-ahead to some genetically modified potatoes. "Of course, when we speak about these technologies, we should always be cautious," the researcher explains. "No problems have emerged, from the scientific point of view, but the initial advantages for the environment are already clear. In any case, it is always necessary to carry out very careful testing in the laboratory; this a cautious approach should satisfy all positions."

The award received by the Insubria researcher is an acknowledgement of the work of all of the top people in the Protein Factory, the inter-university centre for protein biotechnologies which was created only a year ago in a joint initiative by Insubria

University and the Polytechnic of Milan. According to the lecturer Loredano Pollegioni, the director of the research centre, "This prize is sign of the quality of the biotechnology research carried out at Insubria, and acknowledges that protein engineering is a sector of excellence, both nationally and internationally. Indeed, this is the second time that the award has been given to a researcher from Insubria; in 2003, Dr. Silvia Sacchi, also a researcher in Biochemistry, received it. It is a great result that rewards the work of a brilliant researcher and of a highly innovative work group".

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