

Master in <u>MO</u>nitoraggio e <u>VA</u>lutazione dell'<u>IM</u>patto <u>A</u>mbientale nelle Imprese agroalimentari (MO.VAIM.A.) *"MO.VA.IM.A.", a master course about monitoring and assessment of Environmental Impact* on agro-industrial companies.

Within the framework of National Operational Program for research (2000-2006) "Scientific Research, Technological Development, High-level Education for the "Objective 1" regions, INCA together with "Istituto Guglielmo Tagliacarne" kick-started an activity to promote economic culture. This project is called "Master in MOnitoraggio e VAlutazione dell'IMpatto Ambientale nelle Imprese agroalimentari" (monitoring and assessment of environmental impact on agro-industrial companies; Italian acronym: MOVAIMA), co-sponsored by the European Social Fund. The project is addressed to people with a chemical, scientific or environmental degree, whose graduation score is equal or superior to 100/110 (Italian University system). Candidates should have been living in the "Objective 1" regions¹ for at least six months and age less than 28 years. Furthermore they have to be jobless or currently unemployed.

The master is aimed to train high-qualified people to meet demand of agro-industrial companies for professional training on environmental protection. Such new experts should be able to help companies - with specific regard for small and medium enterprises, SMEs – to develop a "green" innovative business model, promoting their active role to prevent risks and protect environment. All candidates will work in agro-industrial companies or in organizations for services and consultation to food industry. They will have to be able to support choices of companies regarding investments on reengineering projects related to productive processes, which should possibly eliminate all risks connected to the environment ("clean" processes and products).

The candidates will be trained on technical-scientific, legal, and management issues to make them able to supervise controls and analyses of all productive phases of an agro-industrial company, thus being able to (back)track all risk elements, adopt innovations to reduce the environmental impact and optimise the productive cycle:

- reduction of phases of conventional production processes;
- design of processes yielding less co- and by-products;
- design of technological solutions to reduce toxicity and pollution problems;
- adoption and set-up of processes complying with national and European regulation for environment protection.

The master will be held at the Department of Chemical Sciences at the University of Catania, and host 20 candidates. All candidates will be have an insurance and be remunerated with 8 Euro per hour. The course started in October 2002, will have a duration of 1,510 hours (in 12 months). All lessons have the compulsory attendance system, and are divided into three phases:

¹ The "Objective 1" regions are defined in the National Operative Program entitled "Scientific Research, Technological Development, High-level Education", and are Sardinia, Sicily, Campania, Puglia, Calabria, Basilicata.

- a) *Basic education* related to chemistry, physic-mathematics, linguistics, and biology. According to the type of professional experience of candidates, basic education is completed with economic-management notions.
- b) Advanced education, technical-professional notions to be used on field, which aim particularly to technical, legal, and economic issues related to the execution of business strategies – both for production and marketing – oriented to sustainable development policies. Candidates will also have the chance to visit some European main centres working in the field of environmental research.
- c) Practical education, which means direct on field practical experience.

In more details:

- 1. After the basic education phase, visits to production plants will be organized to help candidates to start the technical-professional phase; i.e. candidates will know with innovative business scenarios related to technical solutions for abatement of the environment impact (i.e. wastewater treatment, abatement of wastes from production, etc.).
- 2. After the theoretical advanced education phase, candidates will be trained at some INCA laboratories to make them test their acquired know-how in the field of environmental analysis and research for environment protection (chemical analyses for food and toxic residues, soil remediation, etc.). Furthermore a tutor will train them in the use of advanced analytical equipment. At the end of this phase, candidates will return to classrooms, back to the Department of Chemical Sciences, to develop a feasibility project on reengineering a specific process for food production.

At the end of the practical phase, candidates will perform a period of training in companies, which work in the agro-industrial field or produce technological machines for the reengineering of agro-industrial processes. This stage should possibly let them increase their on-field experience. Participants will also have to prepare a report developing a project-work (contents will be agreed with the hosting company).

At the end of each phase (basic, advanced, and practical) candidates will have to take final exams, which results will be essential to maintain the education grants.