



International Biocontrol Manufacturers' Association

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SUSTAINABLE PLANT PROTECTION
A priority for the National and International authorities?

Biocontrol and IPM : The ambition of both politicians and consumers :

Following environmental catastrophies, awareness of pesticide residues in food and the danger of long term toxicity, the use of conventional plant protection pesticides is strongly questioned by the public.

Through national or international organisations, consumers have convinced politicians as well as authorities concerned that it is now urgent to consider alternative plant protection systems and to promote Integrated Pest Management (IPM).

At present, politicians and crop protection agency staff confirm their intention to reduce the use of chemical pesticides and promote new safer,sustainable, biological methods.

A substantial market opportunity for manufacturers :

For more than 50 years, all over the World, biological control research organisations have been working in order to develop such alternative methods for the protection of principal crops and uncultivated areas. In spite of these intense technical and scientific efforts, living organisms and biological products concern only 1% of the World market, of which 80% is covered by one single product: *Bacillus thuringiensis*. Biological control products can however replace at least 20% of chemicals, a market valued at 7 Billion USD.

All plant protection organisations, whether national or international, (FAO, WHO , European Commission, OECD Working Group on Pesticides, ...) recognise the need for reducing the use of chemical pesticides and for promoting IPM and biological control

Lack of support :

In reality, the conventional chemical pesticide industry continues to grow fast, perhaps less in Europe and North America, but certainly strongly in Asia.

Instead of providing financial support, incentives, technical support, training, information, (why not advertising ?), nothing happens, research funds are allocated to other projects, laboratories are closed down. Extension services are reduced or receive no clear guidelines for promotion of alternative crop protection strategies. IPM is not incorporated into protocols for Crop Quality. No incentive is given to growers, and no consumer promotion is made

Weakness of the biocontrol industry :

Perhaps the principle responsibility for this failure rests with the biocontrol manufacturers themselves, 250 basic producers worldwide, of which 91% are small or very small enterprises, many have a turnover below 1 Million USD (exploiting one or two products for niche markets). This turnover is not high enough to justify any market development effort. There is practically no specific distribution network. Producers must bear the totality of marketing costs.

Biocontrol manufacturers are therefore financially very fragile, and the number of failures is impressive (72% of companies created between 1970 and 1995 have closed down), number of strategic alliances have led to failures, most of the more efficient companies have been acquired by large chemical multinationals, only to be disinvested later and left alone without a market.

The business of manufacturing biocontrol products seems to be more a “capital venture”, than a market development type of business.

Officials responsible for regulatory affairs associated with chemical industry representatives are laying down the legislation and providing obstacles to the commercial promotion of biologicals :

This situation can be explained in many ways, but the principle explanation might well concern the persons responsible for development of the legislative environment for plant protection. All these experts, scientists and officials are however, in principle, totally convinced that they are looking for the best solutions for public and food safety. Since they have a long experience with chemical pesticides, they are fully aware of the risks. Any new alternative technique must be at least safer, and in addition more effective. Otherwise why should they replace the chemicals ?

This position is naturally strongly supported, if not promoted, by the chemical industry. Their representatives, coming in majority from large multinational chemical groups, have wide experience. They know how difficult and costly it is to develop biological control solutions. Since it is almost impossible to reach the same financial profit levels as chemicals, the companies often give up. They do not wish to see their sales figures decrease and therefore develop strong arguments in order to convince that chemicals remain easy to use, effective and cheap, and are constantly improved in order to improve their safety. Biologicals, in their view should be handled in the same way as chemical pesticides.

Since many national and international regulatory staff have long experience with the chemical industry, they know each other, they speak the same language and understand each other well. It is therefore not surprising that the specific features of biologicals are ignored. Most of the regulations are the same or at least extrapolated from those concerning chemicals. In such a way, the European Commission considers natural and botanical products as synthetic chemicals, beneficial microorganisms (bacteria, viruses, fungi) are covered by the

same “Pesticides Directive”91/414. Like chemicals, the “active substance” will be registered at the EU level, although the same living organism will obviously not behave the same way in different environments, climate, regions, cropping systems.

Satisfied with these first successes, experts are working actively on the registration requirements for insect pheromones, specific molecules that the female insect produces naturally in order to attract males for mating.

A few countries such as France or Canada already consider pheromones as “pesticides”, and require similar registration requirements, although pheromones never killed any insect !

Following the Canadian initiative, OECD has undertaken the “harmonisation” of requirements, meaning that other countries should adopt Canadian and US rules!

Contrary to what has been said in Brussels, the EC General Directorate SANCO is supportive (although EC officers in charge, when questioned by IBMA representatives in 1998, stated that this would not be the case). A Guidance Document consisting of more than 150 pages of requirements is being finalized, although everyone is aware that the requirements listed are beyond any moderate degree of common-sense. In this way, registration of insect pheromones will be far too expensive. Few, if any manufacturer will be able to provide a full registration dossier. “Waivers will be given” assure the EC representative in the OECD Biopesticides Steering Group. Based on which scientific basis ? This will provide good negotiation tasks for lobbying offices which flourish in Brussels.

Beneficial invertebrates, insects and nematodes? IOBC, the international organisation of biocontrol products believe that registration is not necessary. This position was confirmed in an international workshop on entomopathogenic nematodes held in 1995 with the participation of OECD and EPPO.

However, again under the leadership of Canada, OECD is working on such registration. The draft document contains a lot of impracticable requirements. In the covering text there is a considerable exaggeration of the severity of risks involved. Furthermore, environmental assessments cannot be made at a national, and even less at an international level : they relate to microclimatic/ecological situations. The “recommended” quarantine measures for initial testing of any novel beneficial raise a lot of fundamental questions:

- who is going to do the work ?
- who is expected to cover the cost for non-patentable agents ?
- what is the value of such quarantine facilities, when international transfer of plants and material is widespread, and organisms are moved around the World inadvertently with these shipments.

Contrary to declared policies, risk exaggeration which includes a lot of nonsense, will slow down the implementation of alternative, sustainable plant protection strategies.

IBMA recommendations

IBMA therefore advocate a global moratorium on biological control agent registration : insect pheromones, natural products, microorganisms, macroorganisms.

New regulations could then be elaborated within the framework of a general declared policy for sustainable agricultural development.

Four basic aspects have to be taken into consideration :

- The nature of the problem
- The nature and level of risks
- The sustainable cropping system concerned
- Property rights, costs and benefits, the sharing of costs between public and private sectors

In order to establish regulations which are original and not mere extrapolations from chemical pesticides, biologists and biocontrol experts must be more involved, specific ecological situations must be taken into consideration and the balance of risks compared to benefits. These deliberations should be based on common sense and scientific knowledge, leaving sufficient flexibility in order to react rapidly to new situations that arise.

Located in newly designated “Centres of competence”, experts will be able to reassess situations, revise decisions and resolve the important problems linked to conflict of interests.