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QUALITY CONTROL FOR ENTOMOPATHOGENIC BACTERIA PRODUCTION

Deise M. F. Capalbo

Embrapa Environment, CP 69, CEP13820-000, Jaguariúna/SP, Brazil.

deise@cnpma.embrapa.br

Quality control or Quality assurance of any microbiological product for pest control is a way to guarantee the efficacy of those products when applied in the field.

De Barjac & Burgerjon (1971) studying the industrial production of entomopathogenic bacteria indicated that the characteristics of the final product must be checked constantly by a reference sample collected from each batch produced. They suggested that each industry should have its own standard. After their proposal, some concepts were incorporated along the years and industrial experience acquired, like the care to the workers during the whole production process (or sanity control) (Alves, 1998) and other aspects of environmental control (Burges, 1981).

For the quality control of the process and of the final product, it is usually checked the purity of the inoculum, the viability and biological activity of the starters, final concentration of the active ingredient and stability.

For sanity control, tests checking the absence of human pathogens are usually requested, as well as hygienic maintenance, allergenicity tests, use of protective clothing and so on. In many countries there is a standard level admitted for microbiological contamination of the end product: coliforms, Salmonella, Staphylococcus aureus and Streptococcus (Quinlan, 1989). For environmental control, items like non target effects, fate in the environment (water, air and soil) are of concern. Protocols have been developed in many countries and some of them have also been harmonized in order to facilitate the registration in different countries.

Nowadays, having a quality assurance unit or its equivalent, is almost an obligation to take part in the global market. Besides, it is also demanded from government regulator agencies in order to get commercial registration, in most of the countries (De Nardo et al, 1998). It must be taken into account that a set of minimum standard procedures is necessary to guarantee the human and the food and feed safety. It is valid for research and industrial units. It is essential that the regulatory agencies, which register the products for commercialization (meaning, large field application), follow a realistic standard in order to guarantee the quality and its safety, but not to prohibit the commercialization of such an environment-friendly product like the biological pesticides.

This is the way to assure that the products originated by research, from private and public sector, that reach the market have are efficient and have efficacy without harm to the environment and human being.