Ingenuity of demonstration fields <Part 2>

Evolutionary Demonstration

A demonstration field is a place to show new techniques for farmers and finally verify the applicability of the technology exhibited. To select themes for demonstration & verification is the first important step in establishing such a field. In Palestine, we participated in a project called 'The Project for Strengthening Support System Focusing on Sustainable Agriculture in the Jordan River Rift Valley (ASAP)' during 2007-2010. Regarding the problems faced by local farmers, we narrowed down the issues by discussing with the C/Ps such as research centers and extension departments.

In Palestine, there were several restrictions under the occupation policy of Israel which lead to inconvenience and disadvantages for farmers. Therefore, the project aimed to increase farmers' incomes by introducing multi technologies such as grafting, compost, silage, dairy products etc. under the concept of cycle-oriented and market-oriented agriculture. The developed and introduced technologies above were adopted in 'The project on Improved Extension for Value-added Agriculture in the Jordan River Rift Valley (EVAP)' during 2011-2014, leading to full scale adoption. In this article, we would like to introduce the transition of technical demonstration and methodologies focusing on some practical actions taken on silage (preservative fermented fodder) making.

The First Generation

Since practical silage making techniques were not popular and not well known even for extension officers and researchers, the project team tried to start steps from ABC. Small scale demonstration activities were conducted in front of farmers by using drums stuffed with vegetables and crop residues just like a cooking school. The important point here was to let farmers know the idea of silage making clearly through showing process and procedures.

The Second Generation

The farmers' reactions to the above demonstration was reasonably good and it seemed the interest in new technology was sufficiently stimulated. The 'appropriate scale' was the next issue to facilitate introduction and practice for farmers. Production amounts of silage in balance with livestock numbers and labor input were essential. No matter how motivated they are, it will not be practical unless these issues are resolved. The project team studied using large-scale machinery and shifted to mass production using the trench silage method. Although it was still at the stage of trial, we succeeded in producing a large amount of quality silage.

Large-scale harvester

Trench method

The Third Generation

The second generation technology opened the door to mass production. However, it was still difficult for farmers to deal with silage. After a series of trials and innovation, the project decideded to adopt the plastic barrel method. Mechanization for mass production was an issue, and after studying the barrel-stuffing machine, there was finally the prospect of practical technology. Stuffing materials were also expanded from merely using the residues of vegetable and crops to include the leaves of date palms.

Plastic Barrel method

In this way, in the demonstration activities on silage making, the contents and methods of the demonstration were evolved through ingenuity and improvements in the technology while taking in requests and opinions, through interactive communication between the project team and farmers. Looking back, the first-generation technology demonstrated at the beginning did not adequately answer the needs of, and challenges facing, farmers, but it can be said that the technology has been adapted and refined in stages. We subsequently received the happy news that silage making had become popular among farmers and was being called the 'silage revolution' in Palestine. This was a case in which the recycling technology was successfully disseminated over several years and became common practice among farmers through the continuous improvement of the demonstration technology for eventual practical application.