Experiences with disseminating Methyl bromide alternative technologies to Jordanian farmers in the Jordan Valley

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Overview

Any feasible Methyl bromide alternative technology needs to be disseminated to large numbers of farmers before any emission reductions can be expected. Recognising this fact, the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol approved in November 1998 a second demonstration project for Jordan. This project was to show a "Comprehensive approach to disseminate soil solarization technology for Methyl bromide substitution".

Soil solarization was chosen because it is a proven technology, which has been in commercial use in Jordan for several years. Even so this technology appears to have several obvious advantages it did not spread readily to a large number of growers. Greenhouse farmers producing crops of tomato, cucumber and strawberry apply most of the Methyl bromide used in Jordan.

The demonstration project was divided into several distinct activities:

1. Identification of farmers willing to participate (April – May 1999).
2. "Expert farmers" with several years of experience in the new technology give training courses to "trainee" farmers (June 1999).
3. Technical advisors visiting the individual "trainee" farmers in their farms to assist in the correct implementation (June – July 1999).
4. Revisiting the "trainee" farmers after the planting period to see if the technology was giving good control of soil borne diseases (October – November 1999).
5. Revisiting the "trainee" farmers at harvest time to see if using the alternative gave the ultimate result of an economically satisfying crop yield (March – April 2000).

To date, the first three activities have been implemented. The following report summarises the experiences gained so far.

Identification of farmers willing to participate

The aim was to solicit 240 farmers. The area chosen for the demonstration project was strategically divided among the six technical advisors responsible for the implementation of the project. The farmers were not easily convinced to attend the offered training courses.

Many did not believe that it would give them any advantage. Many had a bad preconception about soil solarization. Some had previously experimented with the technology and complained that it was not efficient. Others believed that it might work only for some crops. Yet others did not believe that sufficient water would be available during this years drought.

In total 300 farmers were signed up over a period of about six weeks for a variety of reasons. Most important were several economic arguments, including low available cash resources due to depressed prices of farm produce, increased price of Methyl bromide, but mainly the predicted low cost of solarization. Our promotion of the alternative technology helped convince many farmers that it would be effective for all crops. Promising to help them secure the necessary water resources also made many farmers participate.

"Expert farmers" with several years of experience in the new technology give training courses to "trainee" farmers.

Three farmers with four to seven years experience in the commercial use of soil solarization agreed to give lectures and field demonstrations about their practices. A simple curriculum was prepared as a hand out and guide to the "trainee" farmers. However, each farmer related his own version of the technology.

Each of the expert farmers conducted four courses on his farm, with expected 20 to 25 registered participants each. In the event, all 300 registered farmers attended and more than 230 additional visitors (farmers and extension personnel) also asked permission to participate.

As an incentive to start practising the new technology, each registered farmer received from the technical advisors one plastic sheet to use as training material on his own farm. This was a very popular way to encourage farmers to attend the demonstrations, and as it turned out, also to start soil solarization.

Technical advisors visiting the individual "trainee" farmers in their farms to assist in the correct implementation.

During the introduction to the training courses the technical advisors announced that they would visit each farmer individually in his or her farm to assist him or her in the correct implementation. This activity required about six weeks to complete. At the time of writing this summary the results have not yet been fully analysed. However, the preliminary results indicate that more than 80% of the farmers actually started soil solarization. Those, who started purchased additional plastic sheets to gain more experience. Many farmers even implemented the new technology on all of their farms. This, however, was discouraged during the training sessions, as there is a considerable risk of severe crop losses in case mistakes render the application ineffective.

More results of this demonstration should be available during the actual round table discussions.