

Research on SA Farming Systems in Nepal: Applications of EM Technology

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Abstract

EM technology was introduced in Nepal after the official visit of the delegation led by Prof. Dr. Teruo Higa during March 1996. The positive results from the field trials and demonstrations on different sectors led to the integration of EM technology in promoting sustainable agriculture (SA) farming systems in Nepal. Training and extension related activities by CWDS have helped in expanding the EM technology in diverse fields and in different parts of Nepal.

The observation trials on the efficacy of EM in composting began in 1996. It is now proven that compost can be made within 4 weeks with EM which otherwise takes about 6 months and even more in the hills of Nepal. Furthermore, it is also established that compost made with EM is more efficient and effective in better plant growth and increased crop yields than the usual compost.

The increased yield of rice with EM was observed in a farmer-field trial in 1996. Research on rice with EM was started in the farm of Nepal Agriculture Research Council (NARC) during 1997. Similarly, vegetable crops related research activities have been undertaken by Horticulture Research Division and Agriculture Environment Unit of NARC from the year 2000. Experiments and observation trials are being conducted on the effects of EM on rice, vegetables, fruit trees, tea, chicken and other animals at different locations in different parts of Nepal. Observation trials are also being conducted to establish the efficacy of EM in managing the household/kitchen wastes and city garbage.

The results so far indicate that rice and vegetables yields from EM applications are higher than with chemical fertilizers. It has also been observed that EM applications have additional advantage of inhibiting the occurrence of blast, blight and other diseases in crops.

The applications of EM in animal husbandry sector have indicated many positive results. Broiler chickens fed with EM are higher in meat weight than the control. Layers have increased and better quality egg production. Furthermore, applications of EM are excellent in controlling the foul odor emanating from the shed/pens of the animals/birds. The bedding and excreta of animal/birds' shed/pens are better quality manure with the application/use of EM.

The availability of quality organic manure has remained a big hurdle in promoting sustainable agriculture practices in Nepal. The application and integration of EM at the farming households level has helped farmers in maintaining soil fertility which in turn is helpful in sustaining and rather improving the productivity of crops and livestock. Furthermore, EM technology is very cost effective and simple in its applications. The integration of EM technology has helped many more farmers adopting sustainable agriculture and increasing number of farms are converting to organic production system. In conclusion, EM technology has been proven successful in promoting sustainable agriculture in Nepal and much expansion in organic agriculture can be expected in the days ahead.

sustainable agriculture; effective microorganisms; crops' yield;