FORAGE SEED PRODUCTION IN EGYPT FOR DOMESTIC MARKET AND FOR EXPORT

M. A. El-Nahrawy[1], A. Rammah[1] and O. Niemelainen[2]

[1] Forage Crops Res. Dept., FCRI, ARC, P.O. Box 12619, Giza, Egypt

[2] Egypt-Finland Agric. Res. Project, Ismailia Agric. Res. Stn., P.O. Box 320, Ismailia, Egypt

ABSTRACT

In Egypt, no major effort is made to provide local and export markets with seeds of correctly identified and pure cultivars of forage crops in spite of the existence of all the essential factors for a successful seed industry. A wide genetic base of indigenous forage crops such as berseem clover and alfalfa, proper irrigation, a harvest and seed maturation period free from rain, sunshine and clear sky all year and highly fertile soils in isolated areas are available. Moreover, uncertified, uncontrolled and unidentified local seeds of berseem clover and alfalfa are highly demanded by foreign markets due to their unique productivity and high tolerance to adverse conditions. However, forage crop seed production technology is not well understood by most forage growers. Alfalfa and berseem clover seeds are produced from small patches from areas grown mainly for forage production purposes. This may be due to the lack of infrastructure such as cleaning facilities, specific insecticides, and many other components that are not available at competitive prices to growers. The challenge of producing a high yield of forage crop seed at a reasonable cost, includes the mastering of all known principles and putting them in practice under environmental and field conditions and has not been achieved yet.

INTRODUCTION

Improving seed supply leads to improving feed supply. Egypt mainly depends on irrigated forages for feed. About half (1.5 million ha) of the cultivated area is devoted to growing berseem clover (*Trifolium alexandrinum* L). Berseem is the oldest cultivated crop and one of the most important forages in Egypt. It is cultivated throughout the winter season (from early October to May) as a continuous crop as well as a preceding crop in cotton rotations to enrich the soil with atmospheric nitrogen. Berseem is never grown with the intention from the beginning to produce seed. Berseem areas are planted for forage production and at the end of the season (late April and early May) seed crops are sometimes taken. No special management of seed production has been considered and all practices are focused on forage production.

There is a high tendency to expand in alfalfa cultivation the reclaimed land in the Egyptian desert. Now the cultivated area is about 63,000 ha. Alfalfa seed production is mainly from areas planted for forage production purposes and then harvested for seed 4-5 years after sowing. Small areas of alfalfa which became thin (low density) due to the adverse conditions are left for seed production without applying any seed production management such as applying optimum fertilizers and water requirements. Existence of exceptional local ecotypes and varieties of berseem clover (El-Nahrawy *et al*, 1996) and alfalfa (El-Nahrawy and Rammah, 1995) in Egypt is considered the cornerstone for having good progress in cultivar development of these two important crops. It is noteworthy to mention that introduced alfalfa cultivars are frequently not as good as local ones (El-Nahrawy and Rammah, 1995). In addition, a large area (about 200,000 ha) is planted with forage sorghum, millet, forage maize and sudangrass during the summer season. Seed production of all forage crops is practiced mainly by farmers and is completely neglected by the public sector. Farmers have traditionally produced their own seed or purchased their requirements from local markets. The quality of seed in local markets from local uncertified, uncontrolled production has been of poor quality. The public sector plays almost no role in forage seed production and supply. However, a small amount of high quality seed available to the growers of forage crops, including berseem, alfalfa and millet, is being practiced by Forage Crops Research Department (FCRD) which is affiliated to Agricultural Research Center, Ministry of Agriculture. The objective of this paper is to determine the potential of forage seed production for domestic and export markets in Egypt.

MATERIALS AND METHODS

The data presented in this paper was prepared on the basis of average areas that have been sown annually with forage crops, areas that will be reclaimed annually, new areas to be used for growing these crops and the plan of exports and imports per crop. In preparing the data as annual requirements, care was paid to include those type of seeds that are mainly used for forage production purposes. Seeds which are used for other purposes, sports and recreation centers, etc., are not included.

RESULTS AND DISCUSSION

Due to the unique desired characteristics of Egyptian forage crops ecotypes and cultivars, especially berseem clover and alfalfa, large amounts of its seed are exported to many countries. The exported amount of berseem clover seed (7400 tons) was the major component (86%) of seed export crops in 1989 in Egypt (Egyptian Financial Group, 1991). The annual requirement of clover seed for the local market is about 75,000 tons. This required amount in addition to 20,000 tons for export in 1995 were produced on farmers' fields. These figures show that berseem seed export is increasing dramatically. The annual requirement for alfalfa seed is about 80 tons and about 50 tons is being exported and imported at the same time. Alfalfa seed produced in Egypt is exported to Gulf countries with higher prices and relatively cheap alfalfa seed is imported. Local alfalfa cultivars, i.e.- Siwa and Ismailia[1]), characterized with a higher level of tolerance to salinity, have been recognized in Argentina (personal communication) which has resulted in increasing demand for seed export. Argentina asked for importing about 2500 tons alfalfa seed annually of the two mentioned cultivars if seed was available.

A large area (about 200,000 ha) is planted with forage sorghum, millet, forage maize and sudangrass during summer. Moreover, fodder beet as well as Italian ryegrass in a mixture with berseem are planted in winter. About three and 30 tons of fodder beet and ryegrass seed, respectively, are imported annually. Moreover, about 500 tons of sorghum seed and 50 tons of millet seed are produced locally and used by the domestic market.

REFERENCES

Egyptian Financial Group. 1991. Offering memorandum and pre-feasibility study of investment in Egypt's seed industry. Proceedings First Egyptian National Seed Conference, May 20-22, 1991. p. 197-209.

El-Nahrawy, M. A. and A. Rammah. 1995. Current status and prospects of alfalfa seed production and use of seed in Egypt. Proceeding of *3rd* International Herbage Seed Conference. Halle (Saale), Germany, June 18-23, 1995. p. 336-340.

El-Nahrawy, M. A.; Hanna, I.A.; El-Barougy, E.; Yousri, H. & Niemelainen, O. 1995. Quality parameters of Egyptian clover seed lots used on newly reclaimed area in Egypt. Proceeding of *3rd* International Herbage Seed Conference. Halle (Saale), Germany, June 18-23, 1995. p. 336-340.

El-Nahrawy, M. A.; A. Bari and G. A. Ramadan. 1996. Collecting traditional berseem clover varieties in Egypt, and prospects for germplasm. Submitted to Plant Genetics Resources Newsletter, IPGRI, FAO.