

Modern Trends in Multiplication and Distribution of Improved Seeds of Groundnut

y S. G. AIYADURAI, B. Sc. (Ag.)
Assistant Oilseeds Specialist.

Introduction: Commercial crops cover about a fifth of the area under cultivation and form the bulk of our country's exports. They are oilseeds, jute, tea and tobacco. Among these, oilseeds, occupy the foremost place. In the Madras State, oilseed crops viz., groundnut, gingelly, castor and coconut are grown over a total area of about 28 lakhs acres, representing nearly 16 per cent of the total cropped area. Of these, groundnut is the most important one as it covers nearly 78 per cent of the total area under oilseed crops and earns the much needed foreign dollars for the country.

In oilseed crops, yield and oil content are the most important factors which determine the merits of a strain. The different improved strains of groundnut, gingelly and castor evolved by the State Department of Agriculture combine the above economic attributes and they are acclaimed as superior to the local varieties. Seed purity is one of the fundamental principles in Agriculture. To maintain this purity, the farmer, the plant breeder, the seed organisations and the Government strive hard alike. The production of nucleus seeds of improved strains marks the beginning of the seed multiplication programme.

Present Position: In the Madras State four nucleus seed farms for large scale production of seeds of improved strains of groundnut and castor are being run in a total area of 200 acres and the nucleus seeds produced every season are distributed among the growers to raise primary seed farms. The nucleus seeds produced at these centres are just enough to raise primary seed farms of groundnut in about 1140 acres and of castor in 600 acres. Assuming that nucleus seeds of groundnut are produced in an area of 200 acres every year, only 2 lakhs acres will be covered with the improved variety at the end of the fifth year, provided the course of development programme is not interrupted due to unforeseen natural causes. It is also evident that to cover a targetted area with improved strains within a specified period, the establishment of larger numbers of nucleus seed farm centres would be necessary.

At present the nucleus seeds of groundnut are distributed by the district officers for raising primary seed farms in the ryots' holdings. The produce from these seed farms is procured and distributed again for organising secondary seed farms on an extensive scale. Unlike in other crops, the running of secondary seed farms becomes necessary in the case of groundnut as the rate of seed multiplication is only 6 to 8 times at each stage. With a view to encourage seed farm ryots a price premium of about 10 per cent is offered. The nucleus seeds are sold to the ryots at all-in-cost rate to cover packing, transport and handling charges involved in the process of distribution. The inclusion of these extra charges swells up the price of the improved seeds at the consuming centres, making it uneconomic for the grower to go in for them, thus defeating the very purpose of the seeds multiplication organisation. The addition of this distribution cost is a serious bottleneck in the popularisation of the improved seeds. It is, therefore, essential to sell the nucleus seeds at market rates for the successful implementation of the seed multiplication programme. The loss accruing thereby should be met by the agency sponsoring such development work and it should on no account be recovered from the grower.

Normally the produce of the groundnut crop is summarily disposed off by the ryots after harvest. They go out for seeds only at the time of sowing of the subsequent crop. Even well-to-do ryots do not sometimes preserve seeds for their own use. Only in rare cases seed pods are either sold for cash or loaned. There is no reliable agency or organisation to procure, store and distribute the seeds during the sowing season. As the seed-rate for groundnut is very high, the problem of providing accommodation for storage comes in the way. Merchants engaged in groundnut trade and oil mill owners however, store some stocks of good seed pods of only the local variety and sell them during the sowing season to their clients. Except a few bags of improved seeds kept for sale in the Agricultural Depots there is no departmental source from which the ryots can obtain their requirements of improved seeds. Even though the common ryot is well aware of the superior qualities of the improved strain he is unable to get his seeds for sowing, due to his poverty. This, in short, is the back ground in which the procurement and distribution of seeds of the improved strains of groundnut is being done in this State.

Future Lines of Work: In many a country like the United States of America for example the multiplication and distribution of improved seeds are taken up by reputed firms or seed associations,

the technical aid alone being provided by the Research Department of the State. The breeder has no responsibility, therefore, for the multiplication and spread of the improved strains evolved by him. Besides undertaking the multiplication phase to a large extent, these private organisations certify to the purity of the seed material and the State Government recognizes such firms. The grower, therefore, obtains his requirements from these firms and he is assured of the quality. These seed associations also play an important part in the furtherance of research by earmarking a portion of their profits for solving problems relating to the seed production and distribution.

Considering the conditions prevailing in our country and the conservative habits of the ryots the following suggestions are put forward for the successful multiplication and distribution of seeds of improved strains of oilseeds. It is hoped that these recommendations when implemented would work efficiently and contribute to increasing the production of oilseeds in the State as contemplated under the Second Five Year Plan.

(i) Nucleus seeds of the improved strains should be produced in larger quantities at a large number of centres for organising primary seed farms on an extensive scale.

(ii) As the rate of multiplication in groundnut is very low (6 to 8 times), to obtain maximum quantity of seeds for further stages of multiplication the primary seed farms should be run only by the State.

(iii) Seeds procured from primary seed farms should be stored in Government godowns at central places.

(iv) The seeds required for organising secondary seed farms should be made available to the ryots at the prevailing market rate, the difference if any, due to the market fluctuations being met by the Government. The principle of seed distribution on "no loss - no gain" basis is not desirable in the interest of spread of improved strains.

(v) The sale of the produce should be done on weight basis only, and standardisation of grade specifications should be introduced.

(vi) Reliable private agencies must also be encouraged to undertake seed distribution work by offering attractive terms.

(vii) The regulated markets instituted under the commercial crops markets Act in a number of centres now help the farmer to market their produce for consumption. It is possible and feasible for these agencies to undertake the production of improved seeds and their distribution. The Act may be amended, if necessary, to enable these organisations to take up this work.

(viii) To meet the increasing demand for improved seeds of groundnut in the Community Project and National Extension Service blocks of this State, the possibility of raising primary and secondary seed farms, and the distribution of seeds within the areas or regions covered by these two extension schemes, may be considered. The Community Project and National Extension Service blocks will however, be supplied with the requisite nucleus seeds annually. It is hoped that vesting responsibility on the Community Project and National Extension Service areas will not only kindle an interest and spirit of competition in them but also enable to concentrate more on the seed multiplication programme in the areas not covered by the Community Project and National Extension Service Schemes.

Conclusion: The Second Five Year Plan emphasises the importance of the production of more commercial crops not only to become self sufficient in them but also to earn the much needed foreign exchange to carry on our developmental activities under the plans. Improved strains have a very important part to play in this programme of increased production side by side with better manuring and efficient plant protection. In this connection it may be mentioned that it appears necessary to work the seed development programme with special reference to the peculiarities and limitations of any particular crop.

Considering the enormous importance of the seed multiplication programme this appears to be the most opportune moment to create a separate administrative wing to organise the production and distribution of all seeds of improved strains on a large scale. That alone would contribute to more efficient running of this very important and essential programme of agricultural improvement. Unless modern trends in the seed multiplication and distribution work in the agriculturally more advanced countries in the west are followed, I venture to submit that we cannot make rapid progress in achieving increased crop production.

List of Candidates Selected by the Service Commission

No.	Name and present Designation of the Upper Subordinate	Section and subject for which selected	Officer under whom he is now working
1.	Sri M. Stephen Durairaj, Meteorology Asst., Coimbatore.	Research (Cotton)	Agronomist and Professor of Agriculture, Coimbatore.
2.	" M. K. Subramaniam, Farm Manager State Seed Farm, Tanjore District.	Agriculture	District Agricultural Officer, Tanjore.
3.	" U. Selvaraj, Cotton Assistant, Srivilliputhur.	Research (Cotton)	Assistant Cotton Specialist, Srivilliputhur.
4.	" T. V. Singaravelu, Special Agricultural Demonstrator (Sugarcane) Karur.	Agriculture	Cane Development Officer, Tiruchirappalli. (Name, since ordered to be removed from the list as per Madras Public Service Commission Memo 3649 G I / 56 dated 1-7-1951.
5.	" R. Balakrishnan, Farm Manager, Central Farm, Coimbatore.	Agriculture	Superintendent, Central Farm, Coimbatore.
6.	" A. Narasimhan, Certification Inspector, Rajapalayam.	Research (Cotton)	Certification Officer, Rajapalayam.
7.	" K. A. M. B. S. Haja Sheriff, Agricultural Demonstrator, Ayyampalayam.	Agriculture	District Agricultural Officer, Madurai.

8.	Sri N. Thulasi Rao, Cotton Assistant, Coimbatore.	Research (Cotton)	Cotton Specialist, Coimbatore.
9.	M. Raju, Extension Officer in Agriculture, Tirunavalur, South Arcot.	Agriculture	Block Development Officer, Tirunavalur, South Arcot District.
10.	T. Ramanathan, Oilseeds Assistant, Tindivanam.	Research (Oilseeds)	Superintendent, Agricultural Research Station, Tindivanam.
11.	G. Soundarapandian, Extension Officer in Agriculture, Gobichettipalayam.	Agriculture	Block Development Officer, Gobichetti- palayam.
12.	Kumari G. Kousalya, Mycology Assistant, Coimbatore.	Research (Mycology)	Government Mycologist, Coimbatore.
13.	Sri H. Syed Javad Hussain, Cotton Assistant, Palur.	Research (Cotton)	Superintendent, Agricultural Research Station, Palur.
14.	T. A. Palaniappan, Oilseed Assistant, Srivilliputhur.	Research (Oilseeds)	Assistant Cotton Specialist, Srivilliputhur.
15.	A. Subramaniam, Paddy Assistant, Aduthurai.	Research (Paddy)	Superintendent, Agricultural Research Station, Aduthurai.
16.	A. Muniswamy, Extension Officer, in Agriculture, Tirumangalam.	Agriculture	Block Development Officer, Tirumangalam.
17.	M. S. K. S. A. Dhanapalan, Chemistry Assistant, Coimbatore.	Research (Chemistry)	Government Agricultural Chemist, Coimbatore.
18.	S. S. Narayanan, Cotton Assistant, Koilpatti.	Research (Cotton)	Assistant Cotton Specialist, Koilpatti.

No.	Name and present Designation of the Upper Subordinate	Section and subject for which selected	Officer under whom he is now working
19.	Sri G. Subbiah, Farm Manager State Seed Farm, Namasivayapuram, Pattukottai Division.	Agriculture	District Agricultural Officer, Pattukottai.
20.	" R. Perumal Raja, Cane Assistant, Cuddalore.	Research Sugarcane	Sugarcane Specialist, Cuddalore.
21.	" K. Parthasarathy, Chemistry Assistant, Coimbatore.	Research Chemistry	Government Agricultural Chemist, Coimbatore.
22.	" K. M. Jesudasan, Agricultural Demonstrator, Kadambur.	Agriculture	District Agricultural Officer, Tinnevely.
23.	" P. Shanmugham, Agricultural Demonstrator, Wallajah.	Agriculture	District Agricultural Officer, Vellore.
24.	" C. V. Kothandaraman, Oilseeds Assistant, Tindivanam.	Research Oilseeds	Superintendent Agricultural Research Station, Tindivanam.
25.	" P. R. Ananda Rao, Cane Assistant, Gudiyatham.	Research Sugarcane	Deputy Director of Agriculture, Vellore.
26.	Kumari V. Savithri, Oilseed Assistant, Coimbatore.	Research (Oilseeds)	Oilseed Specialist, Coimbatore.
27.	Sri P. Veluswamy, Certification Inspector, Rajapalayam.	Research (Cotton)	Certification Officer, Rajapalayam.

28.	Sri V. Srinivasan, Millet Assistant, Koilpatti.	Research Millets	Superintendent, Agricultural Research Station, Koilpatti.
29.	B. Vasandaraj David, Plant Protection Assistant (Entomology) Madurai.	Agriculture	District Agricultural Officer, Madurai.
30.	B. S. Viswanathan, Extension Officer Agriculture, Ootacamund.	Agriculture	Block Development Officer, Ootacamund.
31.	K. Marappan, Agricultural Demonstrator, Velur.	Agriculture	District Agricultural Officer, Salem.
32.	P. P. K. Laxmanan, Agricultural Demonstrator, Aruppukottai.	Agriculture	District Agricultural Officer, Sattur.
33.	V. K. Rangaswamy, Agricultural Demonstrator, Punjapuliampatti, Coimbatore District.	Agriculture	District Agricultural Officer, Ootacamund.
34.	K. Navakodi, Oilseed Assistant, Tindivanam.	Research Oilseeds	Superintendent Agricultural Research Station, Tindivanam.
35.	P. Chelliah, Extension Officer, Tuticorin.	Agriculture	Block Development Officer, Tuticorin.
36.	S. K. Murugayyan, Farm Manager, Rural Extension Training Centre, Bhavanisagar.	Agriculture	Principal, Rural Extension Training Centre, Bhavanisagar.
37.	R. P. Sethumadhavan, Extension Officer in Agriculture, Arcot.	Agriculture	Block Development Officer, Arcot, His name is deleted from the list as per Madras Public Service Commission Memorandum No. 3649-G1 56/14-8-57.

No	Name and present Designation of the Upper Subordinate	Section and subject for which selected	Officer under whom he is now working
38.	Sri A. Muthumangiah Muthiah, Agricultural Demonstrator, Vadasandur.	Agriculture	District Agricultural Officer, Madurai.
39.	" B. T. Nanjan, Soil Conservation 3-3-1934 Assistant, Tiruchirapalli:	Agriculture	Assistant Agricultural Engineer, (Soil conservation Scheme) Kodaikonal.
40.	" A. Thiagarajan, Agricultural Demonstrator, Tittagudi, South Arcot.	Agriculture	District Agricultural Officer, Cuddalore.
41.	" K. M. Padmanaban Nambesan, Fruit Assistant, Aduthurai.	Research Fruits	Banana Research Officer, Aduthurai.
42.	" N. Sundaram, Oilseeds Assistant, Tindivanam,	Research Oilseeds	Superintendent, Agricultural Research Station, Tindivanam.
43.	" K. Bhanu, Agricultural Demonstrator, Chidambaram, (Kumarakshi)	Agriculture	District Agricultural Officer, Cuddalore.
44.	" S. Hydross, Agricultural Demonstrator, Vaniambadi.	Agriculture	District Agricultural Officer, Vellore.
45.	Kumari R. Yogambal, Ex. Entomology Assistant, Coimbatore (since resigned)	Research Entomology	Government Entomologist,
46.	Sri P. Ramalingam Chetty, Farm Manager, Sheep Farm, Chinglepet Dt.	Agriculture	Sheep and Coats Development Officer, Vepari, Madras

47.	Sri G. A. Sivaraman, Extension Officer in Agriculture, Kodumudi	Agriculture	Block Development Officer, Erode.
48.	G. Surendran, Agricultural Demonstrator, Alangudi.	Agriculture	District Agricultural Officer, Kumbakonam, (The selection of candidate is provisional subject to verification of his community by M. R. S. C.)
49.	K. Sivasubramaniam, Chemistry Assistant, Coimbatore.	Research Chemistry	Govt. Agricultural Chemist, Coimbatore.
50.	C. S. Sathyamoorthy, Farm Manager, Coimbatore.	Agriculture	Superintendent, Central Farm, Coimbatore.
51.	N. Bagavathiappan, Extension Officer, Kodavasal.	Agriculture	Block Development Officer, Kodavasal.
52.	R. N. Bathrachalam, Agricultural Demonstrator, Tiruvannamalai.	Agriculture	District Agricultural Officer, Vellore.
53.	P. Kandaswamy, Oilseeds Assistant, Anamalai.	Research Oilseeds	Assistant Oilseeds Specialist, Pollachi.
54.	R. Sundararajan, Agricultural Demonstrator, Manalmedu.	Agriculture	District Agricultural Officer, Mayuram.
55.	A. Damodaran, Certification Inspector, Rajapalayam.	Research (Cotton)	Certification Officer, Rajapalayam.
56.	M. Nagarajan, Agricultural Demonstrator, Pullambadi.	Agriculture	District Agricultural Officer, Tiruchirapalli.

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57.	Sri M. Raman, Special Agricultural Demonstrator, Cotton, Palladam.	Agriculture	Assistant Cotton Specialist, Tirupur.
58.	N. Mahalingam, Agricultural Demonstrator, Cuddalore.	Agriculture	District Agricultural Officer, Cuddalore.
59.	M. K. Ramanathan, Agricultural Demonstrator, Mannargudi.	Agriculture	District Agricultural Officer, Tanjore.
60.	N. V. Rangaswamy, Agricultural Demonstrator, Acharapakkam.	Agriculture	District Agricultural Officer, Guindy.
61.	V. Venugopal, Extension Officer, Perundurai.	Agriculture	Block Development Officer, Perundurai.
62.	P. K. Ramakrishnan, Cotton Assistant, Koilpatti.	Research (Cotton)	Assistant Cotton Specialist, (Karunganni, Koilpatti.
63.	D. V. Ranganathan, Special Agricultural Demonstrator (Cotton) Coimbatore.	Agriculture	Assistant Cotton Specialist, Srivilliputhur.
64.	C. Ravindranath Menon, Agricultural Demonstrator, (Vegetable) Madras.	Agriculture	District Agricultural Officer, Guindy.
65.	K. Balakrishnan, Extension Officer, Perianaickenpalayam.	Agriculture	Block Development Officer, Perianaickenpalayam, Coimbatore Dt.

66.	Sri T. Sivasankaran, Special Agricultural Demonstrator, Cotton, Srivilliputhur.	Agriculture	Assistant Cotton Specialist, (K. 2. Co. 4) Srivilliputhur.
67.	„ P. Muthumani, Extension Officer in Agriculture, Chetpet.	Agriculture	Block Development Officer, Chetpet, North Arcot District.
68.	„ S. T. Viswanathan, Agricultural Demonstrator, Peravurni.	Agriculture	District Agricultural Officer, Pattukottai.
69.	„ G. Srinivasan, Agricultural Demonstrator, Tiruvarur.	Agriculture	-Do-
70.	„ S. Syed Fazlullah, Agricultural Demonstrator, Jeeyapuram.	Agriculture	District Agricultural Officer, Tiruchirapalli.