

## 6.5. Pests and disease management

The Programmes to be taken up are:

- Evaluation of new pesticide molecules against leaf folder, gall midge, plant hoppers, sheath blight and brown spot diseases in rice.
- Integrated Pest and Disease Management for blast and false smut in rice.
- Management of Sheath blight and charcoal rot in maize.
- Management of soil borne and foliar diseases of cotton.
- Control of powdery mildew in sunflower.
- Management of coconut eriophid mite.
- Development of wilt resistant grafted pepper.
- Management of pest and diseases in vegetables such as; brinjal, bhendi, snakegourd and plantation crops namely; coconut and oilpalm.

## 7. Seed Production Programme for 2014-15

- The Seed Centre in TNAU has programmed to produce and distribute 20,000 quintals of various classes of seeds in major principal crops in 175 improved varieties besides, 30 Lakh planting material.
- Automatic Seed Vending Machines are proposed to be installed at commercially important places of major cities to facilitate consumers to obtain their choice of seed material especially fruits / vegetable seed packets at any time.
- Production of high quality oil palm seedlings by establishment of mother palm gardens is also programmed.

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- Motivating the private seed producers to involve in certified seed production of various crops,
- Strict enforcement of seed legislations,
- Creating awareness among the stakeholders of the seed industry regarding seed certification and seed testing,
- Encouraging and involving farmers to register under organic certification programme.

## 2. Seed Certification

Seed Certification is a regulatory process to secure, maintain and make available seeds with standard qualities of germination, physical purity, genetic purity and seed health as prescribed under the Indian Minimum Seed Certification Standards (IMSCS). The functions of the seed certification agency are carried out in accordance with the provisions of The Seeds Act 1966 and The Seeds Rules 1968 by the Seed certification wing.

Out of the total quantity of seed certified, the quantity certified under paddy crop accounts for 92%. The share of the private sector in the total production of paddy seeds amounts to 84%. The private sector are being motivated and encouraged to take up certified seed production of Millets, Minor millets, Pulses and Oil seed crops.

To increase the working efficiency of the field level functionaries, it is proposed to provide seed certification kits under the NADP Scheme during the year 2014 -15 at a total cost of Rs.18.16 Lakhs. The proposal has already been sent to the Government and is approved for the year 2014-15 by the State Level Sanctioning Committee. Under the part II scheme, sanction has been issued for the purchase of 10 numbers of new jeeps as replacement for old, condemned and handed over jeeps. Financial allocation of

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## 9. SEED CERTIFICATION & ORGANIC CERTIFICATION.

### 1. Introduction

The Agriculture is the first and foremost sector which paves the way for the development of all other allied sectors. Food is the most essential and undeniable requirement for survival and development. To attain self sufficiency in food production and to meet the growing needs of the increasing population, agricultural sector needs utmost priority and focused attention.

In agriculture, seed is the most important factor which influences not only the yield potential but also the quality and uniformity of the produce which ultimately decides the market value. One of the most critical management decisions of the farmer is the selection of appropriate seed source and variety. The seed quality can affect the yield potential of a crop more than any other input factor. Thus the income of the farmer totally depends upon the use of quality certified seeds.

In order to increase the certified seed production and to ensure quality seed supply for the benefit of the farmers, the Department of Seed Certification and Organic Certification is implementing the following programmes namely,

1. Seed Certification,
2. Seed Quality Control,
3. Seed Testing,
4. Training,
5. Organic Certification.

The Department aims to achieve the following Goals by

- Ensuring the availability of good quality seeds to farmers of the State,

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Rs.57.50 Lakhs has been sanctioned during the year 2014-15.

During the year 2013-2014, 84,776 MT of various crop seeds has been certified against the annual target of 1,10,000 MT of seeds. It is proposed to certify 1,10,000 MT of various crop seeds during the year 2014-15. Use of Information and Communication Technology (ICT) will be promoted for easy monitoring and effective reporting.

### 3. Seed Quality Control

The Government is keen in ensuring the timely availability of quality seeds for which seed distribution, system is properly monitored by the Quality Control wing through enforcement of various seed legislations viz.. The Seeds Act 1966, The Seeds Rules 1968, The Seeds (Control) Order 1983 and The Environment (Protection) Act 1986 .

The Seed Inspection wing is issuing license for seed dealers under provisions of The Seeds (Control) Order, 1983. At present there are 9,148 licensed seed selling points in the state. The seed quality control activities involve inspection of the seed selling points at regular intervals and drawing of seed samples for quality check from seed lots kept for sale. The samples are analyzed in the notified seed testing laboratories. Based on the results of the analytical reports, actions are initiated against sub standard seed lots. Contraventions of seed legislations detected by the Seed Quality Control wing are dealt with legal actions.

During the year 2013-2014, 69,392 seed selling point inspections have been conducted as against the annual

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target of 68,500 inspections and 61,002 seed samples have been drawn for quality check as against the annual target of 66,000 seed samples. The quality control wing has unearthed sub standard seeds of 2,042 seed lots, weighing 2,922 MT. valued at 1,536 Lakh Rupees. These seed lots were prevented from being sold to the farmers. Under contravention of seed legislations, 366 cases were filed in the court of law, of which 264 cases were disposed off in favour of the Government.

It is proposed to make 68,500 seed selling point inspections and to draw 66,000 seed samples for quality check during the year 2014-15.

During 2014-15, it is proposed to strengthen the Seed quality control wing at a total cost of Rs 6 Lakhs under the NADP scheme.

#### **4. Seed Testing**

The implementation of the seed certification and seed quality control programmes are dependant on the results declared by the notified seed testing laboratories of this Department. The various seed standards such as germination, physical purity, moisture, seed health and other distinguishable varieties are determined in the seed testing laboratories.

At present there are 32 notified seed testing laboratories in our State. The certified seed samples received from the seed certification wing, the official samples received from the seed quality control wing, and the service samples sent by the farmers, seed dealers and seed producers are tested in the notified seed testing laboratories. Grow out tests are conducted to ascertain the

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Printing Laboratory will be strengthened during the year 2014-15, at a cost of Rs.3.66 Lakhs under the NADP Scheme. The proposals have already been approved by the State Level Sanctioning Committee.

#### **b. Taking seed testing to International levels**

There is an urgent need to grow to the international standards in the seed testing arena. The seed industry in India is in need of public sector under taking seed testing laboratories on par to international standards to support and encourage seed exports. For this, it is essential that our seed testing laboratories are to be accredited by the International Seed Testing Association (ISTA) which has its head quarters at Switzerland.

The department has taken up this challenge and has upgraded the existing notified seed testing laboratory at Coimbatore, to the standards of the International Seed Testing Association (ISTA).

This laboratory has become a member of the International Seed Testing Association. This Laboratory has been accredited by the International Seed Testing Association (ISTA) in the month of June 2014. This accreditation is valid for a period till 27.01.2017. This is an exclusive and unique achievement which has not been achieved by any other public sector undertaking in the country.

Under Seed testing during 2013-14, a total number of 91,782 seed samples have been analyzed as against the annual target of 87,000 seed samples. It is proposed to analyze 92,000 seed samples during the year 2014-15. During 2014-15, the seed testing activities will be

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genetic purity of a given seed lot. Genetic Purity tests are conducted for crop seeds, where it is a pre requisite for seed certification and also for the samples received from the seed inspection wing. Genetic purity tests are conducted at the grow out test farm of this Directorate, functioning at Kannampalayam (Coimbatore). A Bt testing Laboratory is attached to this Directorate for analyzing Bt toxin.

#### **4.1. Special & Outstanding activities carried out in Seed Testing.**

##### **a. Establishment of a DNA (Finger Printing) Laboratory**

The functions of seed testing need to be updated and modernized as there is a huge need arising out to meet the ever growing seed industry. Taking in to account of this situation and in order to perform better in ensuring the seed standards, this Department has taken the outstanding efforts by the establishment of a DNA (Finger Printing Laboratory) at a cost of Rs 52 Lakhs.

This is the first of its kind in the whole of public sector under takings in the nation. This laboratory has further been strengthened under the NADP Schemes during the year 2012-13.

The functions of this Laboratory has enabled the Department to identify the Genetic Purity of crop varieties within a very short period of three to four days which otherwise will need a time of 2 to 3 months as the case may be. The DNA (Finger Printing Laboratory) at present has a potential to ensure the Genetic Purity of 13 varieties of the paddy crop which are most popularly grown in the state. This laboratory is awaiting the notification of the Testing Protocol from the Central Seed Sub Committee of the Government of India. This Laboratory has obtained the State notification during the year 2014-15. This DNA Finger

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strengthened by equipping all the seed testing laboratories and the Grow out Test Farm at Kannampalayam with improved infrastructure facilities.

#### **5.Training**

In order to update the skills and knowledge of personnel's of this department, seed producers, seed dealers and farmers in seed production technology, seed certification procedures, seed testing, seed legislation, etc., there is an exclusive training wing functioning in this department.

##### **Training imparted to the Technical Officers**

**5.1 Orientation Training:** Training on seed certification procedures, field inspections, identification of crop varieties, processing, sampling, tagging, and procedures involved in seed testing and seed quality control imparted to the newly recruited technical officers of this Department.

**5.2 Refresher Training:** The latest techniques on seed production, seed testing and seed inspection are imparted to the already positioned technical officers of this department.

##### **Training imparted to the Seed producers, Growers and Seed Dealers.**

**5.3 Training to Seed Producers:** Training is given to seed producers on seed production to improve quality seed production.

**5.4 Training to Seed Dealers:** Training on the purchase and sale of quality seeds, seed storage and the regulatory aspects of seed legislation are given to the seed dealers.

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During 2014-15, it is proposed to train 44,500 persons involved in the seed industry, under the training programme of this Department.

## 6. Organic Certification

Organic Certification addresses a growing worldwide demand for organic food. It intends to assure quality and to promote commerce. Organic Certification essentially aims at regulating and facilitating the sale of organic products to consumers. It is extended to Crop production, Animal husbandry, Beekeeping, Food Processing, Input production, Trade and Export.

Organic Agriculture means, a process of developing a viable and sustainable agro eco system, which can achieve sustainable productivity without the use of artificial external inputs such as chemical fertilizers and pesticides.

Sufficient quantities of biodegradable material of microbial, plant or animal origin should be returned to the soil to increase its fertility and the biological activity. The primary objective of organic agriculture is to optimize the health and productivity of interdependent communities of soil life, plants, animals and people.

To carryout inspection and certification of organic production system in accordance with (NPOP) National Programme for Organic Production, Tamil Nadu Organic Certification Department (TNOCD) was established and was launched by Government of India in the year 2000 and notified in October 2001 under the Foreign Trade (Development and Regulation) Act 1992 (FTDR Act). Tamil Nadu Organic Certification Department is accredited by (APEDA) Agricultural and Processed Food Products Exports Development Authority, New Delhi, Ministry of Commerce and Industry, Government of India.

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During the year 2013-14, 11,339 Ha. of land have been registered under Organic Certification as against the annual target of 12,546 Ha. This includes 230 individual farmers possessing 3,359 Ha. of land, 13 groups containing 4,394 farmers having 7,788 Ha. of land and 26 corporate possessing 193 Ha. of land. It has been planned to bring 12,546 Ha. of land under Organic Certification during 2014-15.

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NPOP/NAB/0019 is the accreditation number allotted to Tamil Nadu Organic Certification Department. Organic Certification carried out by this Department is on par with standards of European Union. Tamil Nadu Organic Certification Department participated in the premier International Trade Fair on Organic Agriculture held at Bengaluru during November 2013. The Organic Certification Department imparts free training to registered organic farmers on National Standards for Organic Production, and for Tamil Nadu Organic Certification Department Standards.

## 6.1 Objectives of organic Farming

- ❖ To preserve tomorrows' nature than today's economy
- ❖ To Promote the Use of Natural products available in local area
- ❖ To Preserve Soil health for longer time
- ❖ To Avoid environmental pollution by avoiding Agricultural Technologies which aims only on higher yield
- ❖ To produce required quantity of nutritive food grains
- ❖ To Increase Agricultural Production as well increase the standard of living of farmers by bringing rain fed cropped area under organic cultivation /certification

## 6.2. Benefits of Organic Certification

This is towards assurance of quality, to produce genuine produce and to promote organic trade. When the product comes to consumer market there needs the third party certification, for assurance of quality. This ensures the use of allowable inputs in the established procedure of production.

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## 10. AGRICULTURAL MARKETING AND AGRI BUSINESS

### 1. Introduction

Agricultural Marketing and Agri Business plays a pivotal role in improving the agrarian economy of the country and it involves all aspects of market structure in the system, both functional and institutional, based on technical and economic considerations and includes pre and post-harvest operations viz., assembling, grading, storage, transportation and distribution. Creation of Marketing infrastructure is important not only for the performance of various marketing functions and expansion of size of the markets but also for transfer of appropriate price signals leading to improved marketing efficiency. **An efficient marketing system** would enable the farmers to get the best possible returns, narrow down the price spread between the producer and the consumer and make all products of farm origin available to consumers at reasonable price without impairing the quality of the produce. The Directorate of Agricultural Marketing and Agri Business is taking various technological interventions to ensure remunerative price to the farmers by creating more infrastructure facilities for marketing and post-harvest management. In addition to the above, thrust is being given for providing farmers with sufficient market information and intelligence, promotion of Farmer Producer Organization (FPO) and creation of aggregation and e-auctioning facilities to improve farmers' income.

Strengthening the marketing infrastructure, creating robust post-harvest supply chain and paving the way for market led agriculture would be impetus to achieve the target of the Vision Tamil Nadu 2023 "to be a global supplier

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