INTRODUCTION

The Directorate of Centre for Plant Breeding and Genetics is being a major Centre in TNAU involved in crop improvement activities and comprised of eight departments viz., Department of Rice, Department of Millets, Department of Pulses, Department of Oilseeds, Department of Cotton, Department of Forage Crops, Department of Plant Genetic Resources and Department of Genetics and Plant Breeding. The Breeder Seed Unit functioning under this Directorate is monitoring and coordinating the Breeder Seed Production of entire Tamil Nadu for both Agricultural and Horticultural Crop. The mandates of this directorate includes teaching, research and extension ie., handling courses on Genetics, Cytogenetics, Plant Breeding and PGR related courses to UG, PG and Ph.D students through quality teaching, conducting research on crop varietal development and dissemination of knowledge on crop varieties to the farmers. It is one of the highly reputed Directorate which is the main centre for many of All India Coordinated Research trials (AICRP) of various crops. Many network research projects are handled in various departments of this Directorate in collaboration with National and International Institutes. This Directorate is monitoring and coordinating all the teaching and research activities of entire TNAU with respect to Plant Breeding and Genetics.

Objective of CAFT

- To conduct training programmes for the scientists of SAU and ICAR institutes
- To conduct summer institutes wherever sanctioned by the council
- To conduct special lectures of invited faculty
- To conduct a research programme involving the postgraduate student(s)
- To equip post graduate laboratory
Faculty: Name & Designation (as on 20.01.2020)

Dr. S. Geetha

Director, DCPBG and Course Director for CAFT

Professor and Heads

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of Head and Department</th>
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<tbody>
<tr>
<td>1.</td>
<td>Dr. K. Ganesamurthy, Department of Rice</td>
</tr>
<tr>
<td>2.</td>
<td>Dr. R. Ravikesavan Department of Millets</td>
</tr>
<tr>
<td>3.</td>
<td>Dr. P. Jayamani Department of Pulses</td>
</tr>
<tr>
<td>4.</td>
<td>Dr. PL. Vishwanathan Department of Oilseeds</td>
</tr>
<tr>
<td>5.</td>
<td>Dr. S. Rajeswari Department of Cotton</td>
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<tr>
<td>6.</td>
<td>Dr. C. Babu Department of Forage Crops</td>
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<td>7.</td>
<td>Dr. S. Manonmani Department of Plant Genetic Resources</td>
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<tr>
<td>8.</td>
<td>Dr. N. Meenakshi Ganesan Department of Genetics and Plant Breeding</td>
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Professors

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<table>
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<tr>
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<tbody>
<tr>
<td>Dr. B. Selvi</td>
<td>Dr. L. Mahalingam Cotton Breeding</td>
</tr>
<tr>
<td>Sorghum Breeding</td>
<td>Dr. R. Saraswathi Rice Breeding</td>
</tr>
<tr>
<td>Dr. T. Kalaimagal</td>
<td>Dr. S. Ganesh Ram Education</td>
</tr>
<tr>
<td>PG Education</td>
<td></td>
</tr>
<tr>
<td>Dr. K. N. Ganesan</td>
<td>Dr. R. Kalaiyarasi Education</td>
</tr>
<tr>
<td>Breeder Seed Unit</td>
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Associate Professors

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<tr>
<td>Dr. R. Pushpam</td>
<td>Dr. K. Iyanar Pearl Millet breeding</td>
</tr>
<tr>
<td>Rice Breeding</td>
<td></td>
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<tr>
<td>Dr. D. Kumaresan</td>
<td>Dr. R. Kalaiyarasi Education</td>
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<tr>
<td>Rice Breeding</td>
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Assistant Professors

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<tbody>
<tr>
<td>Dr. K. Amudha</td>
<td>Dr. D. Kavithamani Sorghum Breeding</td>
</tr>
<tr>
<td>Rice Breeding</td>
<td></td>
</tr>
<tr>
<td>Dr. N. Kumari Vinodhana</td>
<td>Dr. A. Muthuswamy Blackgram Breeding</td>
</tr>
<tr>
<td>Maize Breeding</td>
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<tr>
<td>Dr. P. Anantharaj</td>
<td>Dr. A. Thangahemavathi Pigeonpea Breeding</td>
</tr>
<tr>
<td>Chickpea Breeding</td>
<td></td>
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</tbody>
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### Human Resource Development
Particulars of Short Courses / Training program for HRD conducted during 2017 to 2020 period

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of the Program</th>
<th>Period</th>
<th>No. of Participants</th>
<th>Internal</th>
<th>External</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>CAS Training</td>
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<tr>
<td>1.</td>
<td>Recent advance and accomplishments in heterosis breeding of crops</td>
<td>2017-18</td>
<td>4</td>
<td>13</td>
<td>17</td>
<td></td>
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<td>2.</td>
<td>Applications of molecular markers in crop breeding</td>
<td>2018-19</td>
<td>4</td>
<td>14</td>
<td>18</td>
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<td>3.</td>
<td>Innovative breeding approaches for stress tolerance in crop plants for climate change</td>
<td>2019-20</td>
<td>1</td>
<td>22</td>
<td>23</td>
<td></td>
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**Infrastructure development (equipments etc.):**

- A separate Centre of Excellence in Molecular Breeding has been established for advanced research in plant Breeding and crop improvement in molecular aspects to develop climate resilient crop varieties.
- A separate laboratory for Marker Aided Selection has been established for applying molecular marker techniques in plant breeding genetics. Recently an addition of Ploidy analyser has been installed at the MAS laboratory for accurate measurement of ploidy level in crop plants.
- A tissue culture laboratory has been established for conducting research on anther and embryo culture in various crops and also for screening of abiotic stress tolerance.
- Existing Cytogenetics Laboratory has been strengthened by adding a fluorescent microscope with image camera and facilities for microtomy.
- Recently the genetics glass house has been renovated and upgraded to facilitate the screening of transgenic plants and rice to Brown planthopper.
The seminar hall has been renovated and provided with public address system, TV, VCR and other audio-visual aids. New furniture have provided to the seminar hall.

A new LCD projector with projection screen has been added to the PG and Ph.D., class rooms and the credit goes to the CAFT in Genetics and Plant Breeding.

A separate computer room has been established with necessary facilities for the data analysis by the post graduate students. All the old computers have been upgraded with latest configurations.

The library of Centre for Plant Breeding and Genetics has been improved to a very great extent and the credit goes to the CAFT in Genetics and Plant Breeding.

All the recent books in the fields of genetics, cytogenetics, tissue culture, Molecular biology and plant breeding were purchased.

The library in the centre remains as an immediate reference source for the teachers and students. Every year new books have been added to the library of the centre as well the central library of the university.

Awards/Recognitions

- **Department of Forage crops** awarded with ‘Best AICRP centre in India’ by IACR during 2017 for its significant contribution in the development of world class Cumbu Napier hybrids and forage resources
- **Dr.S.Robin**, Professor, was awarded the Conferred fellow of NAAS for the year 2017.
- **Department of Forage Crops** awarded with ‘Best Seed production centre’ in TNAU during 2018 of the 48th TNAU foundation day for the production and distribution of forage seeds/vegetative propagules in a massive way.
- **Department of Millets** awarded with ‘Best AICRP centre award for Sorghum’ by IACR during 2019 for its significant contribution in the Sorghum Breeding.
- **Dr. P. Jayamani**, Professor, awarded **Best Poster award** in National symposium on Pulses for nutritional security and Agricultural sustainability, IIPR, Kanpur, 2-4 December 2017.
- **Dr. D. Kavithamani**, Assistant Professor, awarded Best seed production scientist award for the year 2016 on 02.07.2018 by the Tamil Nadu Agricultural University, Coimbatore.
- **Dr. P. Jayamani**, Professor and Head, Department of Pulses was awarded **Best seed Producton Scientist award 2019** by the Tamil Nadu Agricultural University, Coimbatore.
Publication

Total number of books/book chapters published by existing permanent faculty in the last two years (2018 & 19)

Books


Book Chapters


**List of Research Publications in SCI Journals coming from the Department during the last five years**


Financial Statement
Expenditure under CAFT during 2017-2020

<table>
<thead>
<tr>
<th>Head</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20*</th>
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<tbody>
<tr>
<td>Operating Cost of Training</td>
<td>5,46,114</td>
<td>5,69,559</td>
<td>6,56,500</td>
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<tr>
<td>Recurring Contingency</td>
<td>3,99,735</td>
<td>3,99,386</td>
<td>4,00,000</td>
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<tr>
<td>Non-Recurring</td>
<td>0</td>
<td>7,00,000</td>
<td>0</td>
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<tr>
<td>T.A. &amp; D.A.</td>
<td>31,680</td>
<td>16,524</td>
<td>50,000</td>
</tr>
<tr>
<td>Library</td>
<td>34,598</td>
<td>34,980</td>
<td>35,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>10,12,127</strong></td>
<td><strong>17,20,449</strong></td>
<td><strong>11,41,500</strong></td>
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*Budget Allotted