Rice Breeding for Temperate Latin America

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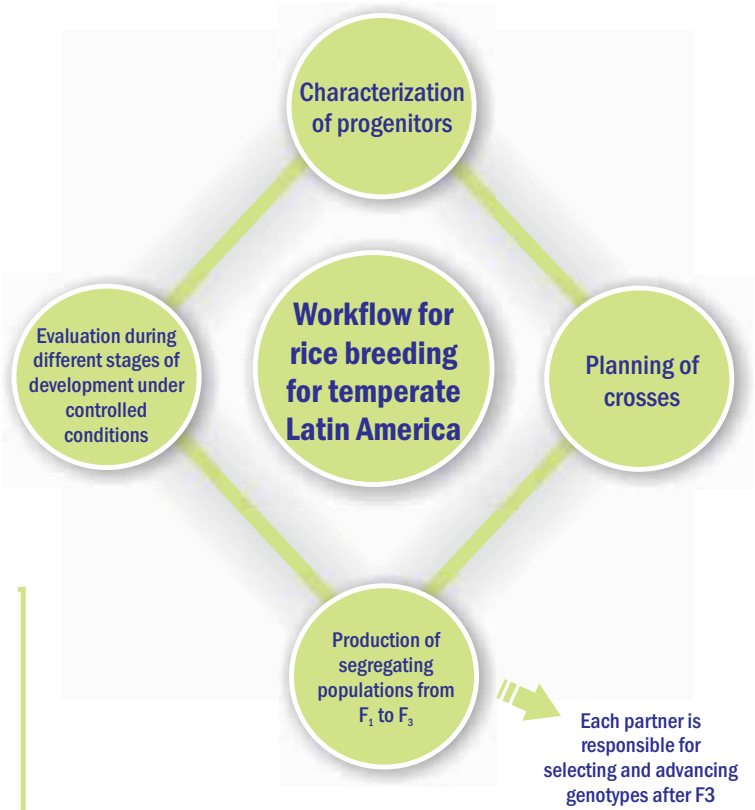
The Latin American Fund for Irrigated Rice (FLAR) has conducted a breeding program since 1995 that is closely integrated with the different rice programs of its member countries.

Introduction

- The germplasm produced by FLAR has successfully developed into varieties in tropical countries, but has not been well adapted to areas of temperate South America where low temperatures are frequent.
- A subprogram was created in 2001 specifically for partners in Argentina (INTA), Rio Grande do Sul - Brazil (IRGA) and Uruguay (INIA).
- The program aims to develop elite materials to serve as source of new varieties with high yield potential, acceptable quality, disease resistance, incorporating cold tolerance in different development stages.



Program Activities

- Characterization of parents for cold environments.
- An average of 300 triple crosses per year.
- Evaluation and selection of parents and segregants for cold tolerance under controlled conditions.
- Supply of segregating populations and lines to member countries.
- Other objectives of the program include: (a) Introduction of tolerance to Fe toxicity, (b) Tolerance to conditions causing straighthead, (c) Resistance to Piricularia.

Results

- The program has provided its partners with genetically diverse materials: 571 potential progenitors, 446 fixed lines and 4242 segregating populations in a continuous annual flow.
- The materials produced are tolerant to cold under controlled conditions and have long and slender grain with high amylose content.
- Argentina and Uruguay have lines selected from FLAR material already included in official evaluation trials. In Brazil there are lines in advanced yield evaluation trials.

Our partners

Instituto Nacional de Tecnología Agropecuaria, INTA-Argentina.

Instituto Riograndense do Arroz, IRGA-Brazil.

Instituto Nacional de Investigación Agropecuaria, INIA-Uruguay.

Centro Internacional de Agricultura Tropical, CIAT.

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