**Strategies for diversification of pistillate base and development of new pistillate lines in castor**

**Lavanya C\*, Manjunatha T and Senthilvel S**

Crop Improvement, ICAR-Indian Institute of Oilseeds Research, Rajendranagar, Hyderabad-500030.

c.lavanya@icar.gov.in

Castor (Ricinus communis L.,), a potential crop for economic security of marginal farmers in India is amenable for cultivation under both rainfed (arid and semi-arid regions) and irrigated conditions in tropical and sub-tropical regions. India accounts for 69 % of the castor area (9.7 l.ha) and 85% of the production (16.6 l.t) in the world (2017-18). Castor, a cross pollinated crop with sexual polymorphism is a good example for commercial exploitation of heterosis based on a two line breeding system. Development of stable pistillate lines and standard seed production technology led to the success of castor hybrids in India. Being a monotypic genus, diversification of pistillate source is mainly through intra-specific, inter varietal hybridization and mutation breeding followed by stringent selection pressure through pedigree method of selection. Among the forty pistillate lines developed using conventional breeding techniques, five pistllate lines were registered with ICAR-NBPGR for their unique morphological characters and pistillate trait. IPC-15, an early flowering (28-30 DAS), early maturing (85-90 DAS), short (16-18 cm to primary spike) pistillate line with papaya leaf type and non-spiny capsules is a good source of novel plant type. Other pistillate lines like DPC-25, M-571, DPC-22 were utilized to develop early to medium (100-110 DAS) maturing hybrids like ICH-278, ICH-588, ICH-266 which are in multi-location trials. In addition, a pistillate gene pool involving four diverse pistillate lines, is in second cycle of random mating for further development of new pistillate lines.

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