

Standing Committee Report Summary

Research for Developing Water Efficient Variety of Seeds to Save Groundwater

- The Standing Committee on Agriculture, Animal Husbandry, and Food Processing (Chair: Mr. Charanjit Singh Channi) presented its report on ‘Research for Developing Water Efficient Variety of Seeds to Save Ground Water’ on March 27, 2026. The Committee examined ongoing programmes that seek to develop water efficient seed varieties. Key observations and recommendations of the Committee include:
 - **Strengthening research and development (R&D):** The Committee observed that development of water efficient seed varieties is essential to maintain sustainability of crop production and achieve food security. It noted that the Indian Council for Agricultural Research (ICAR) is working on 85 field crops under the Crop Science for Food and Nutritional Security Scheme. The Scheme has components related to development of water efficient varieties of crops. The Committee made the following recommendations to strengthen R&D: (i) further strengthening of the research and development ecosystem of ICAR, (ii) prioritising breeding of location specific drought tolerance and high water-use efficient traits, and (iii) implementation of a long-term mission to develop water efficient varieties of seeds.
 - **Integrating modern tools for genetic improvement:** The Committee noted that latest biotechnological tools are used for genetic improvement of crops such as cereals and pulses. One such latest technique is gene editing. It observed that there is no biosafety, environmental, and ecological risk associated with varieties developed by gene editing. Gene edited crops such as soyabean and tomato are already commercially cultivated in USA and Japan respectively. The Committee recommended using modern tool such as gene editing for genetic improvement of crops. It further recommended following bio-safety measures to secure human health, biodiversity, and environment of the country.
 - **Supply of quality seeds:** After the release of a seed variety, the Department of Agriculture and Farmers Welfare receives indents (annual demands) for breeder seed of the variety from entities such as the department of agriculture of different states. ICAR produces breeder seed as per the indent. Seeds are then certified and distributed among the farmers. The Committee noted that there is no shortage of breeder seeds. However, it observed that timely availability of quality seeds continues to be an issue for small and marginal farmers. Farmers in arid and resource-poor regions heavily rely on the informal seed sector to meet their seed requirements. The Committee recommended strengthening of the existing seed production and distribution network to meet the increasing demand of quality and affordable seeds. States should also promote the adoption of climate-resilient and water-efficient varieties.
 - **Implementation of water budget based cropping system:** The Committee recommended designing and managing cropping systems based on water availability in a particular region. Such an approach will promote sustainable water management and enhanced resource-use efficiency in drought-prone and water-deficit areas. It also recommended establishing a legal and regulatory mechanism to guide farmers on suitable crop choices and farming practices, especially in critical and over-exploited water zones.
 - **Apex body or committee for agriculture:** The Committee noted that several ministries have been created over time with direct or indirect linkages to agriculture. However, no permanent coordination mechanism exist. It recommended constituting an apex body or committee to coordinate across relevant ministries, departments, and agencies, particularly for complex and cross-cutting interventions in this sector.

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