ICRISAT, a global leader in dryland agri-food systems, is renowned for its innovative crop improvement program that addresses issues of hunger, poverty, malnutrition, environmental degradation and climate change. To improve crop resilience, nutrition, and sustainability, ICRISAT focuses on developing legumes and cereals, and introducing oilseed crops that are essential to food security in drylands.

Featuring cutting-edge technologies, ICRISAT’s breeding program utilises the Rapid-Gen Advancement Facility, which reduces the cost and time required for developing new varieties, as well as state-of-the-art phenotyping facilities such as the Automatic Rainout Shelter, LeasyScan, LysiField alongside integrated genomics, marker assisted selection and breeding for pest and disease resistance as linked components of the breeding pipeline.

ICRISAT’s improved crops and germplasm are widely shared with partners globally, with over 1230 varieties released in 81 countries by the beginning of 2023.
ICRISAT's achievements in different crops

Sorghum:
- The forage sorghum hybrid CSH 24 MF developed using ICRISAT breeding material named as 'a landmark forage hybrid' in India.
- The high iron and zinc variety 'Parbhani Shakti' released in India and in trials for release in South Sudan.
- The world's first high-iron varieties, 'SAMSORG 45' and 'SAMSORG 46' released in Africa.
- The first ethanol from sweet sorghum produced from ICRISAT-bred cultivars - ICSV 25308 and RVICH 28.

Pearl Millet:
- 'Nafagonon', the first commercial single cross hybrid released in Burkina Faso.
- 'Chakti', a high Fe-Zn pearl millet, released in Niger.
- The first iron bio-fortified variety, 'Dhanashakti', released in India.
- HHB 67-Improved, a hybrid improved through marker-assisted selection for downy mildew resistance released in India.

Groundnut:
- The development of 33 foliar fungal disease resistant, 4 groundnut rosette disease resistant, 20 drought tolerant, 3 confectionery, and 5 early maturing varieties.
- The first high oleic acid varieties 'Girnar 4' and 'Girnar 5', released in India.
- The first Spanish type high oleic variety, GG 40 (ICGV 16668) released in India.
- Two high oil yielding varieties, GJG 32 (ICGV 03043) and Chhattisgarh mungfali-1 (ICGV 06420) released in India.

Pigeonpea:
- Development of some of the world's first pigeonpea varieties:
  - The world's first commercial cytoplasmic male sterility hybrid ICPH 2671.
  - The world's first wilt and SMD2 resistant variety 'Asha' (ICPL 87119).
  - The world's first genetic male sterility hybrid ICPH 8.
  - The world's first fusarium wilt-resistant variety 'Maruti' (ICP 8863).
  - The world's first short duration variety ICPL 87091 released in Kenya and subsequently to other countries in ESA.