TECHNOLOGIES DEVELOPED

Sr. No.	Recommendations
1	**Screening of wild germplasm of YVMV resistance** Among the different species of Okra including cultivated (*A. esculentus*) and wild (*A. moschatus*, *A. moschatus* subsp. tuberosus, *A.manihot* var. tetraphyllus, *A.tuberculatus*, *A. angulosus* var. grandiflorur and *A.ficulneus*), two accessions of *A. moschatus* subsps. tuberosus (IC 470750 and IC 413569) are resistant for YVMV (Yellow Vein Mosaic Virus) disease and it is advisable to include these two wild accessions of okra in the pre-breeding programme to introgress the genes for YVMV resistance into the cultivated okra.
2	**Survey and collection of saffron germplasm** Flowering can be successfully induced in Saffron outside its natural habitat under controlled environmental conditions (Temperature 20-25 C, Humidity: 35-70% and Direct Sunlight: 10 hours per day) for carrying out downstream gene expression and molecular biology studies related to colour and flavor principles.
3	**Validation of newly developed SSR markers of *Plantago ovata*** Genomic SSR markers of *Plantago ovata* are highly transferable among its allied species and hence can be successfully utilized for improvement of isabgol crop through marker assisted breeding.
4	**Mining and validation of EST-SSR for gum (Galactomannan) in Guar** There is narrow genetic base and low genetic variability in cultivated varieties of cluster bean (guar) for gum content as revealed by EST-SSR markers and thus there is need to create variability artificially and further assess it in germplasm through Genomic-SSR markers.
5	**Mining and validation of EST-SSR for fiber development in cotton** EST-SSR markers associated with fiber quality traits can easily distinguish *Gossypium herbaceum* and *Gossypium arboreum* and thus can be successfully utilized for identification of interspecific hybrids between these two species followed by their use in marker assisted breeding of desi cotton.
6	**DNA fingerprinting of crop varieties and other bio-inputs developed by AAU, Anand** Two aroma specific primers viz. ESP and IFAP can be successfully utilized to discriminate aromatic rice genotypes from non-aromatic rice genotypes and for selection of aromatic segregants among segregating generation
7	**Development and validation of highly sensitive LC-MS/MS method for plant metabolite quantification and confirmation from medicinal and aromatic plants** LC-MS/MS protocol as developed by Department of Agricultural Biotechnology, AAU, Anand to detect and quantify stigmasterol, eugenol, methyl eugenol, methyl cinnamate, artemisinin, withaferin, withanolides, scopoletin, linalool, crocin, safranal, chicoric acid, rosmarinic acid, caftaric acid, crocetin dialdehyde, andrographolide, 4-allylanisol from different medicinal and aromatic plants can be successfully utilized to ascertain the quality of medicinal plant products.

8	**Development of tissue culture protocol for mass multiplication of seedless lemon** The standardized protocol involves utilization of Nodal segment explants for *in vitro* sprouting on Murashige and Skoog (1962) (MS) supplemented with cytokinins BAP (1.0 mgl^{-1}) and Kn (0.5 mgl^{-1}). Multiple shoot induction for large scale multiplication of cultures was successfully achieved on MS medium containing 0.2 mgl^{-1} BA, 1.0 mgl^{-1} Kn and 0.5mgl^{-1} IBA with highest the highest number of multiple shoots (4.75) which was found to be effective for four sub-culturing on same medium. The rooting of the in vitro shoots can be achieved on MS medium supplied with auxins IBA (1.0 mgl^{-1}) and NAA (0.2 mgl^{-1}) with highest rooting % and number of roots. Primary hardening of plants can be successfully achieved when cocopeat alone used as substrate leading to least mortality and better growth while, further secondary hardening can be performed in soil: vermicompost (3:1) based mixture in polybags (4 x 6 cm).