Technology developed and recommended

Sr. No.	Recommendation
1	**Integrated Nutrient Management in *kharif* Black gram (*Vigna mungo* L.) (2022)** The farmers of middle Gujarat Agro climatic Zone growing black gram during *kharif* season are recommended to apply either 20 kg N and 40 kg P_2O_5/ha as basal or FYM 2 t/ha, Vermicompost 250 kg/ha and castor cake 120 kg/ha as basal to get higher yield and net return.
2	**Performance of *rabi* sweet corn (*Zea mays* L. saccharata. sturt.) under different levels of nitrogen, phosphorus and potash applied through drip system (2022)** The farmers of middle Gujarat Agro climatic zone growing *rabi* hybrid Sweet corn through drip irrigation system (0.8 PEF) are recommended to fertilize the crop with 120 kg N/ha {(105 kg N through Urea & 15 kg N through Urea phosphate) (24 kg as basal and remaining 96 kg in four equal splits at 20, 30, 40 and 50 DAS)} and 40 kg P_2O_5/ha through urea phosphate (08 kg as basal and remaining 32 kg in four equal splits at 20, 30, 40 and 50 DAS) through fertigation to get higher green cob yield and net return. **System details:** • Lateral spacing- 90 cm, • Dripper spacing- 45 cm • Dripper discharge- 4 liter Per Hour (lph), • Operating pressure- 1.2 kg cm^2 • Operating frequency- Alternate day • Operating time- 55 Minutes
3	**Integrated Pest Management in Soybean (2022)** Farmers of Gujarat growing soybean are recommended to adopt Integrated Pest Management module consisting of seed treatment with imidacloprid 600FS, 9.0 ml/ kg seeds + growing of castor as a trap crop around the field +spraying of chlorantraniliprole 18.5 SC 0.006%, 3 ml/10 liters of water at 40days after sowing and neem oil 40 ml/ 10 liters of water at 60 days after sowing for effective management of jassid, whitefly and girdle beetle.
4	**Integrated nutrient management in *summer* Green gram (*Vigna radiate* L.). (2021)** The farmers of middle Gujarat Agro climatic zone growing summer Green gram GAM-5 variety are recommended to apply R.D.F (20:40:0::N:P_2O_5:K_2O kg/ha) for getting higher yield and net return. Whereas, those farmers whose interest in organic farming are recommended to apply PROM (40 kg P_2O_5/ha) applied with Bio NP (*Rhizobium* and PSB) @ 5ml/kg seed to get higher yield and net return.
5	**Nitrogen management through fertigation on green fruit yield of chilli (*Capsicum annuum* L.) under middle Gujarat conditions (2020)** The farmers of middle Gujarat Agro climatic zone growing *rabi* chilli hybrid (GAVCH-1) are recommended to adopt drip irrigation at 0.8 (PEF), fertilize the crop with 160 kg/ha in five split (Basal, at 20, 30, 40, 50 DAS) through fertigation to get higher yield and net return.

6	**Effect of different levels of Phosphorus, Potassium and Sulphur on growth, yield and quality of Bt Cotton {Var.G.Cot.Hy.8 (BG II) under middle Gujarat conditions (G. Cot. Hy-8 BG-II) (2019)** The farmers of middle Gujarat agro climatic zone growing Bt cotton (G. Cot. Hy.-8, BG-II) are recommended to apply 240 kg/ha N along with 20 kg/ha P_2O_5, 40 kg/ha K_2O and 20 kg/ha Sulphur to get higher yield and net return.
7	**Effect of organic manures, bio-fertilizers, levels of nitrogen and phosphorus on soybean (*Glycine max* (L.) Merrill) and their residual effects on *rabi* maize (2019)** The farmers of middle Gujarat agro climatic zone are recommended to growing soybean NRC-37 variety in *kharif* season with FYM @ 10t/ha should be applied along with nitrogen @ 45 kg N ha-1 and phosphorus @ 60 kg P2O5 ha-1 before sowing in open furrow, besides that seed treatment of biofertilizers [*Rhizobium japonicum* @ 5 ml kg-1 seed + PSB (*Bacillus coagulans*) @ 5 ml kg-1 seed] and 75% Recommended dose of fertilizer (90kg N ha-1 and 45kg P2O5 ha-1) applied to the succeeding *rabi* maize crop var. GM-3 to get higher yield and net return.
8	**Response of seed rates on different soybean varieties in *kharif* season (2018)** The farmers of Middle Gujarat Agro Climatic Zone are recommended to growing soybean in *kharif* season are recommended to grow NRC-37 variety with 80 kg/ha seed rate to get higher yield and net return.
9	**Response of spacing on different soybean varieties in *kharif* season (2018)** The farmers of Middle Gujarat Agro Climatic Zone are recommended to growing soybean in *kharif* season are recommended to grow NRC-37 variety at the distance of 45 cm to get higher yield and net return.
10	**Effect of fertigation on soybean productivity (2018)** Fertigation or irrigation at all the three critical stages i.e. flowering, pod initiation and seed filling was found to be beneficial than flat sowing, therefore it is recommended for Eastern and Central zone of India.
11	**Application of Foliar nutrition on soybean productivity (2018)** The foliar application of RDF + DAP 2% or RDF + 19:19:19 (NPK) 2% or RDF + MOP 0.5% RDF + Zn @ 0.5% at pod initiation stage found beneficial, therefore it is recommended for Central Zone of India.
12	**Response of different nitrogen levels and time of application through fertigation on green cob yield of sweet corn (*Zea Mays* L. *SuchharataStrut*) under middle Gujarat conditions (2017)** The farmers of middle Gujarat Agro climatic zone-III (AES-II)growing sweet corn (Sugar-75) are recommended to adopt drip irrigation at 0.8 (PEF), fertilize the crop with 100% RDN (120 kg/ha) in five split (Basal, 20, 30, 40, 50 DAS) through fertigation to get higher yield and net return.
13	**Varietal Performance of hybrid maize under varying levels of Nitrogen and Phosphours in rainfed condition (2017)** The farmers of middle Gujarat Zone II growing rainfed maize hybrids GAYMH-1 and GAWMh-2 in panchmahal district are advised to fertilize crop with 160 Kg N_2 and 20Kg P_2O_5 per hector for securing higher grain yield with higher net return. While the farmer of Dahod district are advised to fertilize crop with 160 Kg N_2 and 60Kg P_2O_5

	per hector for securing higher grain yield with higher bet return. The Nitrogen application will be done in equal split at basal, 4 leaves, 8 leaves and tesseling stage of the crop growth.
14	**Effect of intercropping pattern on soybean and maize yield in middle Gujarat Condition (2017)** The farmers of middle Gujarat Agro climate zone are advised to grow soybean (NRC-37) and maize (GM-6) as intercrop in 3:2 row ration with distance of 45 cm during kharif season for getting higher yield and net return.
15	**Effect of hydrogel on Soybean Productivity (ASP-9/12) (2017)** The farmers of Central Zone of India are advised to give seed treatment of growing soybean in kharif season sowing give best result in seed as well as straw yield.
16	**Bio-efficacy of insecticides against girdle beetle *Oberea brevis* Swedenbord of soybean (2017)** Farmers of middle Gujarat Agroclimatic Zone-3 growing soybean are recommended to treat their seeds with imidacloprid 600 FS @ 9 ml/ kg seeds and spray twice chlorantraniliprole 18.5 SC @ 0.006% (3 ml/ 10 litres of water) at 40 and 55 days after sowing for effective and economical management of girdle beetle of soybean.
17	**Performance evaluation of guava under drip system of irrigation (2016)** The farmers of middle Gujarat Agro-climatic zone-III growing guava (cv. L 49) are advised to adopt drip method of irrigation at 0.7 FPE for saving 34 % water without adverse effect on fruit yield as compared to surface irrigation. The system should be operated 3.0 hrs in October and February and 2.0 hrs 30 min from November to January at alternate day
18	**Improving use efficiency of inputs (water and nutrient) (G.Cot Hy-8 &BG II) (2016)** The farmers if middle Gujarat Agro-climatic zone-III (AES-II) growing cotton (BG-IIF in *kharif* season are recommended to adopt drip irrigation at 1.0 ADFPE and fertilizer with 240 kg Nha^{-1} (in three equal split) to get higher yield and net returns.
19	**Yield of soybean influenced by varying dates of Planting and cultivars (2013)** The farmers of middle Gujarat Agro climatic zone-III (AES-II) growing soybean in *kharif* season are advise to sown soybean crop at Onset of Monson with improve variety NRC - 37 to get higher yield and net return.
20	**Influence of Integrated nutrient management of soybean.(2012)** The farmers of middle Gujarat Agro-climatic zone-III (AES-II) growing soybean in *kharif* season are advised to adopt INM practice and apply NP (15-30 kg/ha) along with seed treatment of PSB + rhizobium to reduce 50% of RD of NP (30-60 kg/ha) and to get higher yield as well as net return.
21	**Integrated nutrient management in cotton(Bt) (2011)** The farmers of middle Gujarat agro-climatic zone-III (AES-II) growing Bt. cotton var. Vikram, are advised to apply Vermicompost @ 2 t/ha and fertilize the crop with nitrogen @ 240 kg N /ha to get higher yield and net profit. Nitrogen should be applied in four equal splits at one month interval starting from sowing.
22	**Studies on cropping sequence system in goradu soil of middle Gujarat condition**

	(2011) The farmers of middle Gujarat Agro-climatic zone-III (AES-II) growing rajagira in Rabi are recommended to adopt Rajagira based cropping system. Growing either Maize or pearl millet in *kharif* and okra (vegetable) in *summer* to get higher net profit
23	**Effect of sowing methods and irrigation scheduling on new introducing crop rajgira (2011)** The farmers of middle Gujarat Agro-climatic zone-III (AES-II) growing Rajagira crop are advised to adopt line sowing method at 45 x 10 cm spacing and irrigate the crop at 0.6 IW/CPE ratio with five irrigations each of 5 cm depth at an interval of 20-23 days after sowing to get higher yield and profit.
24	**Response of soybean to NP&S fertilization (2011)** The farmers of middle Gujarat Agro-climatic zone-III (AES-II) growing soybean (Gujarat soybean-1) in *kharif* season are advised to give 45 kg N/ha,60 kg P_2O_5/ha and 20 kg S/ha to get higher yield and net return.
25	**Effect of tied ridging on soil moisture conservation and yield of maize under rainfed condition (2010)** The farmers of Middle Gujarat Agro-climatic zone-III (AES-II) growing maize cv.GM-4 in *kharif* season are advised to make ridging at 2 m across the furrow after sowing of maize for securing higher yield (3444 kg ha^{-1}) with net return of Rs.24256 and cost benefit ratio of 2.86.
26	**Studies on cotton based cropping system in goradu soil of middle Gujarat (2010)** The farmers of Middle Gujarat Agro-climatic zone-III (AES-II) are advised to adopt cotton (*kharif*) - vegetable cluster bean (summer) cropping system to get higher yield and net profit.
27	**Irrigation scheduling in Rabi maize (Sweet corn) under drip system (2010)** The farmers of Middle Gujarat Agro-climatic zone-III (AES-II) are advised to adopt drip system of irrigation in maize (Sweet corn var. Madhuri) to get higher green cob yield and income. The drip system should be laid out at a lateral distance of 0.90 m and dripper (4.0 lph) spacing of 0.60 m. The system should be operated for 2 hours at a pressure of 1.2 kg/cm^2 on alternate day during the crop period.