Technology Developed

A. Banana

- Standardised the requirement of N and K_2O nutrients each 200g /plant for banana cv. Basrai.
- Planting of banana cv. Basrai as well as Grand Naine at 1.0 x 1.2 x 2.0 m (6250 plants/ha) and banana cv. Gandevi Selection at 1.2 x 1.5 x 2.4 m (4600 plants/ha) spacing under pair row planting method is recommended. Alternatively, planting 3 suckers per pit at a spacing of 1.8 x 3.6 m or 2 x 3 m with 50% RDF (300:90:200g N:P_2O_5:K_2O/plants) in cv. Grand Naine is also found economical.
- Application of 200g N (75% inorganic source and 25% organic source) is recommended for Basrai banana.
- In banana first nine months of planting are critical period to manage the weeds. Integrated method of weed control involving growing of cowpea and its incorporation into soil, followed by hand weeding and chemical spray of glyphosate (1kg/ha) has been recommended for Gandevi selection.
- Application of 75% recommended dose of N and K_2O (300 and 200g/plant) under drip is recommended for banana cv. Grand Naine.
- The best time of planting banana is June to August under Gujarat conditions.
- Covering bunches with white or blue polythene bag (200 gauge) after complete opening of bunch is recommended.
- 25 per cent N, P_2O_5, K_2O nutrient can be saved under drip irrigation method.
- Banana Gandevi selection is recommended for cultivation with application of 300g each N and K_2O per plant per crop in three equal splits at 90, 120 and 150 DAP (90g P_2O_5 with 10kg FYM/plant as basal dose at planting).
- Use of tissue culture plants for Grand Naine has been recommended.
- In Grand Naine, inclusion of bio-fertilizers viz., *Azospirillum* @ 50 g/plant at two month of planting along with 100% RDF (200:90:200 g N:P_2O_5:K_2O/ plant).
- Intercropping of cabbage with banana in late *Kharif* planting has been recommended.
- Banana cv. Grand Naine advised to irrigate through drip at 0.8, 0.6, 0.7 and 0.8 PEF at various growth stages like planting to bud initiation, bud initiation to shooting, shooting to last hand opening and last hand opening to one month before harvesting, respectively.
- Drip irrigation at 0.70 PEF and application of 75% RD N and 100% RD K_2O through fertigation recommended for Banana cv. Grand Naine.
- Application of 80% RD of N and K_2O through drip irrigation in per cent ratio of 40:25, 30:35, 30:25 and 0:15 at 3rd, 5th, 7th and 9th month after planting, respectively gives higher yield with saving of 20% N and K_2O fertilizers.

- Banana Gandevi Selection found superior in respect of productivity (97.20 t/ha) than Grand Naine (73.70 t/ha). However, both these varieties are found similar on the basis of per day production.
- Bunch spray of 2,4-D (10 ppm) at 5 days after last hand opening along with 250:90:250 g $N:P_2O_5:K_2O$/plant, respectively has been recommended for improving fruit quality and yield.
- For the management of rhizome rot disease in banana, treatment of suckers with dipping in copper oxychloride (0.4%) or *Pseudomonas fluorescens* (1%) for 45 minutes, followed by spraying of streptocycline (0.03%) found effective.
- Spray of propiconazole (0.1%) found effective against banana leaf spot.
- Bud injection with one ml solution of imidacloprid 17.8 SL (0.6 ml/lit water) or 2 ml solution of azadirachtin 10000 ppm (5 ml/lit water) at the time of emergence of flower (upright position) found effective for management of banana rust thrips and produce highest number of marketable fruits.

B. Sapota

- The performance of variety PKM-1 and Kalipatti has been found similar in Gujarat.
- Inarching method of grafting is recommended during Feb-Mar. & Sept-Oct.
- To get highest per cent graft success, bud sticks need to be wrapped with newspaper and scaled in perforated polythene bags and storing under refrigerated conditions.
- Germination of *Khirnee* seeds can be enhanced by the treatment of 200 ppm GA. Faster growth rate of the seedlings can be obtained by two spray of GA along with urea (1%).
- Tree spacing of 5 x 5 m is recommended for variety Kalipatti up to 12-13 years.
- Adult sapota of Kalipatti tree are recommended to apply RDF (1000:500:500g $N:P_2O_5:K_2O$/tree/year) in ratio of 25:100:25, 50:00:50 and 25:00:25 per cent during June, August and October, respectively.
- For the control of bud boring insects, spray of lamda-cyhalothrin (0.005%), polytrin-C (0.044%), Nurelle (0.055%) and chlorpyriphos (0.05%) has been recommended. Application of Module [First spray with DDVP (0.03%) in March 2nd fortnight followed by spray of polytrin-C (0.044%) in April-1st fortnight followed by spray with monocrotophos (0.05%) and DDVP (0.03%) in April-2nd fortnight followed by spray with chlorpyriphos (0.05%)] was found superior in suppressing the bud borer damage.
- Spray of carbendazim (0.1%) or mancozeb (0.2%) or zineb (0.2%) is found effective to manage *Pestalotiopsis* leaf spot disease of sapota.
- Three sprays of profenophos 50 EC 15 ml or novaluron 10 EC 5 ml /10 lit water at 20 days interval from October onwards recommended for management of seed borer.

****