

**JUNAGADH AGRICULTURAL UNIVERSITY**  
**RESEARCH RECOMMENDATIONS FOR SCIENTIFIC COMMUNITY**

**IV. HORTICULTURAL & AGRO-FORESTRY**

Total eight scientific recommendations were developed by horticulture & agro-forestry disciplines as described below.

**Year: 2008-2009**

**1. Extension of shelf life of mango cv. Kesar under pre-cooling and cold chamber treatments for local market**

Scientists are advised to keep freshly harvested mature mango fruits cv. Kesar in a small cool chamber at 14 °C with 90 per cent RH to maintain the fruit quality up to 25 days.

*(Department of Horticulture, CoA, JAU, Junagadh)*

**Year: 2010-2011**

**2. Characterization of different accessions of black jamun (*Syzygium cuminii* Skeels) from Saurashtra region**

The different accessions like VR-1, VM-1, JAU-6, VB-1 and VMA-1 of black jamun identified from Junagadh region were observed better in different characteristics.



*(Department of Horticulture, CoA, JAU, Junagadh)*

**Year: 2011-2012**

**3. Response of different genotypes of custard apple to weather parameters**

The climatic parameters like temperature, humidity and rainfall influenced the flowering, fruit setting, fruit retention percentage, fruit yield and disease-pests incidence. More humidity and off seasonal rain during March-April insist the first and second reproductive flush and adversely affects the third flush. Optimum temperature and rain leads to more fruit set. Heavy rain during fruit set also tends to more drop with less fruit retention percentage. Mealy bug population is decreasing with increasing rain, whereas, black spot decreases when wind speed is less. Custard apple requires 30-35 °C temperature during flowering and fruit setting, 75-90 % humidity and 600-1400 mm even distributed rainfall. Off seasonal rain disturbs the flowering pattern and adversely affects the crop.



*(Department of Horticulture, CoA, JAU, Junagadh)*

**4. Survey of coconut gardens in Gujarat state**

From the survey of five districts of South Saurashtra and South Gujarat region, it was observed that only 14.29 % farmers are growing hybrid coconut varieties (D x T and T x D) and 45.71 % farmers preferred seedlings from nursery of the university as well as Horticulture Departments of State Government. While, 38.10 % farmers are growing coconut as per recommended spacing and 50 % farmers follow recommended dose of fertilizers. It was also observed that only 10 % farmers adopt the recommended irrigation practices and none of the farmers is using drip irrigation and plant protection measures in their orchards. Therefore, it is suggested that the extension functionaries are required to motivate the farmers to adopt recommended cultivation practices for coconut.



*(Agricultural Research Station (Fruit Crops), JAU, Mahuva)*

**Year: 2013-14**

### **5. Effect of time of ethephon application and trunk diameter on gum production from *Acacia senegal* (L.) Willd Gorad**

It is recommended that application of 5 ml ethephon @ 100 ppm [0.25 ml Ethrel (40 %) in 1 liter of water] to *Acacia senegal* (Gorad) above one meter ground level having 51-70 cm trunk girth during first fortnight of March resulted in higher gum production and higher net return.



(Grassland Research Station, JAU, Dhari)

**Year: 2016-17**

### **6. Effects of climate change on flowering and yield of mango cv. Kesar**

It is recommended to scientific community that the climatic parameters like temperature, humidity, rainfall, bright sun shine hours and wind velocity influenced the flowering, fruit setting, fruit dropping, number of fruit per plant and fruit yield. Higher day temperature with lower night temperature as well as more fluctuation in day & night temperature disturb the flowering, pollination and fruit setting process. Similarly, higher humidity, dew, late rain or off seasonal rain during flowering also affects adversely. Mango requires 25-30 °C day temperature & 15-18 °C night temperature, 40-45 % humidity, no dew formation, lower late rain (September), higher sun shine hours (8-9 hrs.) during floral bud initiation, flowering and fruit setting.



(Department of Horticulture, CoA, JAU, Junagadh)

**Year: 2017-18**

### **7. Estimation of effect of growing degree days (GDD) on phenology, flowering and yield on different mango varieties under Saurashtra Agro-climatic condition**

It is observed that the growing degree days (GDD) have direct influence on BDS, flowering, fruit set and various fruit development stages, but not for the physical characters of fruits. The GDD requirements of different varieties were found unique and a mango variety Kesar requires low GDD for maturity with higher Heat Use Efficiency.



(Department of Horticulture, CoA, JAU, Junagadh)

**Year: 2019-20**

### **8. Effect of foliar spray of chemicals to induce flowering and fruiting on rejuvenated mango trees cv. Kesar**

The scientific community is informed to spray cycocel (CCC) @ 1000 ppm (1 ml in one liter of water) during October and second spray after one month of first spray in rejuvenated Kesar mango orchard for obtaining higher yield and net return.

(Dept. of Horticulture, CoA, JAU, Junagadh)