Department of Plant Pathology
Recommendations made during the year 2019-20 to 2024-25.

Year	Meeting of CJA	Recommendations for farming community
2019-20	16th	**Biological control of root rot of coriander.** The farmers of South Saurashtra Agro-climatic Zone growing coriander are advised to apply talc based *Trichoderma harzianum* 1% WP (2 x 107 cfu/g) @ 6.0 kg mixed in 500 kg of FYM per hectare at the time of sowing in furrows for effective and economical management of root rot.
		Impact of Rhizobium isolates on groundnut under field condition. The farmers of South Saurashtra Agro-climatic Zone growing groundnut during kharif season are advised to give seed treatment of *Rhizobium leguminosarum* isolate-1 (10^7 cfu/ml) @ 10 ml/kg seeds along with soil application of recommended dose (RD) of P2O5 (25 kg/ha) & K2O (50 kg/ha) and 75% RD of N (9.4 kg/ha) at the time of sowing for obtaining higher pod yield and net return.
		Impact of Azotobacter isolates on cotton under field condition. The farmers of South Saurashtra Agro-climatic Zone growing Bt cotton are advised to give seed treatment of *Azotobacter chroococcum* isolate-1 (10^7 cfu/ml) @ 10 ml/kg seeds along with soil application of recommended dose (RD) of P2O5 (50 kg/ha) and K2O (150 kg/ha) at the time of sowing in furrow and 75% RD of N (180 kg/ha) [in equal four splits of 45 kg first at basal and remaining at 30, 60 and 90 days after sowing] for obtaining higher seed cotton yield and net return.
		Impact of phosphate solubilizing microorganism on cotton under field condition. The farmers of South Saurashtra Agro-climatic Zone growing Bt cotton are advised to give seed treatment of *Bacillus subtilis* JAU isolate-1 (10^7 cfu/ml) @ 10 ml/kg seeds along with soil application of recommended dose (RD) of N (240 kg/ha) [in equal four splits of 60 kg first at basal and remaining at 30, 60 and 90 days after sowing] and K2O (150 kg/ha) and 75% RD of P2O5 (37.5 kg/ha) at the time of sowing for obtaining higher seed cotton yield and net return.
		Impact of phosphate solubilizing microorganism on groundnut under field condition. The farmers of South Saurashtra Agro-climatic Zone growing groundnut during kharif season are advised to give seed treatment of *Bacillus subtilis* JAU isolate-1 (10^7 cfu/ml) @ 10 ml/kg seeds along with soil application of recommended dose (RD) of N (12.50 kg/ha) and K2O (50.00 kg/ha) and 75% RD of P2O5 (18.75 kg/ha) at the time of sowing for obtaining higher pod yield and net return.

		Biological control of root rot (*Macrophomina phaseolina*) of groundnut. The farmers of South Saurashtra Agro-climatic Zone growing kharif groundnut are advise to apply talc based *Trichoderma harzianum* 1% WP (2 x 10^7 cfu/g) @ 1.5 kg/ha + *Trichoderma viride* 1% WP (2 x 107 cfu/g) @ 1.5 kg/ha OR *Trichoderma viride* 1% WP (2 x 10^7 cfu/g) @ 1.5 kg/ha + *Pseudomonas fluorescens* 1% WP (1 x 10^8 cfu/g) @ 1.5 kg/ha mixed in 500 kg/ha well decomposed farm yard manure in furrow at the time of sowing, for effective and economical management of root rot of groundnut.
2020-21	AS PER 17th PPSC	**Efficacy of fluorescens producing Pseudomonas against collar rot (*Aspergillus niger*) of groundnut.** Farmers of South Saurashtra Agro-climatic Zone growing kharif groundnut are advised to treat the seeds with talc based *Pseudomonas fluorescens* 1% WP (2 x 10^6 cfu/g) @ 20 g/kg seed and soil application of *Pseudomonas fluorescens* 1% WP (2 x 10^6 cfu/g) @ 2.5 kg in 250 kg of castor cake/ha at the time of sowing and one month after germination for effective and economical management of collar rot of groundnut.
		Efficacy of fluorescens producing pseudomonas against foliar diseases (leaf spots and rust) of groundnut. The farmers of South Saurashtra Agroclimatic Zone growing kharif groundnut are advised for foliar spray of hexaconazole 5% SC (10 ml/10 lit water) at 40 DAS + foliar spray of talcum powder based P. fluorescens 1% WP (2 x 106 cfu/g) (100 g/10 lit water) at 60 and 80 DAS OR foliar spray of hexaconazole 5% SC (10 ml/10 litre water) at 40, 60 and 80 DAS for effective and economical management of leaf spots of groundnut.
		Chemical control of early and late leaf spot and rust diseases of groundnut. The farmers of South Saurashtra Agro-climatic Zone growing kharif groundnut are advised to spray pyraclostrobin 12.5% + epoxiconazole 4.7% SE 0.025% (15 ml/10 litre of water) or carbendazim 12% + mancozeb 63% WP 0.15% (20 g/10 litre of water) first at 50 days after sowing and subsequent two at 20 days interval for managing the early and late leaf spot and rust diseases.
		Effect of biofertilizers on the yield of oyster mushroom (*Pleurotus sajor caju*). The Oyster mushroom (*Pleurotus sajor-caju*) growers of South Saurashtra Agro-climatic Zone are advised to treat wheat straw substrate with Azotobacter (10^8 cfu) and PSB (10^8 cfu) each at 0.2 per cent using spawn rate of three per cent in three kg of substrate for higher sporophore production and biological efficiency.
		Effect of different substrates on nutritional and biochemical properties of oyster mushroom (Pleurotus sajor caju).

		The Oyster mushroom (*Pleurotus sajor-caju*) growers are advised to advocate wheat or chick pea substrate for higher production, better nutritional and biochemical properties.
2022-23	19th	**Efficacy of ready-mix formulation of fungicides against foliar diseases of cumin** The farmers of Saurashtra region growing cumin are recommended to spray metiram 55% + pyraclostrobin 5% WG @ 0.180% (30 g /10 l of water) or pyraclostrobin 13.3% + epoxiconazole 5% SE @ 0.027% (15 ml /10 l of water), first at 30 days after sowing and subsequent two sprays at an interval of 20 days for effective and economical management of blight disease.
		Efficacy of ready-mix formulation of fungicides against foliar diseases of cumin The farmers of Saurashtra region growing cumin are recommended to spray metiram 55% + pyraclostrobin 5% WG @ 0.180% (30 g /10 l of water), first at 30 days after sowing and subsequent two sprays at an interval of 20 days for effective and economical management of powdery mildew disease
		Chemical control of die-back of mango For the effective and economical management of die-back of mango, apply three spray of azoxystrobin 18.2% + difenoconazole 11.4% SC @ 0.037% (12.50 ml/10 liter of water) or azoxystrobin 18.2% + difenoconazole 11.4% SC @ 0.030% (10 ml/10 liter of water) or tebuconazole 50% + trifloxystrobin 25% WG @ 0.094% (12.50 ml/10 liter of water), first spray at just before monsoon and subsequent sprays at 30 days interval after first spray
2024-25	21st	**Management of post-harvest diseases of mango** The farmers of south Saurashtra agro-climatic zone growing mango are recommended to treat harvested mango fruits with hot water (52 ± 1°C for 5 minutes) or hot water (52 ± 1°C) treated with sodium hypochlorite (NaOCl) 5% solution @ 200 ppm (2 ml in 10 liter water) for 5 minutes for effective and economical management of stem end rot and fruit rot.
		Management of twister disease complex in onion For effective management of twister disease complex in onion, apply chlorantraniliprole 0.4 G (10 kg/ha) + copper oxychloride 50 WP (1.25 kg/ha) in soil at the time of transplanting along with two foliar applications of

		tebuconazole 50 + trifloxystrobin 25 WG 0.075% (10 g/10 L water) or azoxystrobin 18.2 + difenoconazole 11.4 SC 0.03% (10 ml/10 L water), first spray at initiation of disease and second spray at 15 days after first spray.
		Effect of different substrate mixture on growth, yield and nutritional value of oyster mushroom (*Pleurotus ostreatus*) Farmers of Gujarat growing oyster mushroom [*Pleurotus ostreatus* (Jacq. ex. fr) P. Kumm] are recommended to use wheat straw + cocopeat + lime + gypsum + sucrose (70:27:1:1:1) or wheat straw + tea waste + lime + gypsum + sucrose (70:27:1:1:1) as substrate for higher production of mushroom. .