PRACTICES	HYBRID SPONGE GOURD (SHIKHAR)	व्यवस्थापन	हाइब्रिड स्पंज लौकी (शिखर)	વ્યવસ્થાપન	હાઇબ્રિડ સ્પોન્જ ગોર્ડ (શિખર)	पद्धती	हायब्रिड स्पंज लौकी (शिखर)	நடைமுறைகள்	வீரிய ரகப் பீர்க்கங்காய் (ஷிகர்)	అభ్యాసాలు	హైబ్రిడ్ నేతి బీరకాయ (శిఖర్)	ಅಭ್ಯಾಸಗಳು	ಹೈಬ್ರಿಡ್ ತುಪ್ಪದ ಹೀರೆಕಾಯಿ (ಶಿಖರ್)
Field Sanitation	Remove residues of previous crops, weeds, old vines and diseased/damaged plant material before sowing. Keep the boundries of field clean to reduce pest and disease carry-over.	**खेत की सफाई**	बुवाई से पहले पिछली फसलों के अवशेष, खरपतवार, पुरानी बेलें और रोगग्रस्त/क्षतिग्रस्त पौधों को हटा दें। कीटों और रोगों के प्रसार को कम करने के लिए खेत की सीमाओं को साफ रखें।	**ખેતરની સ્વચ્છતા**	વાવણી પહેલાં પાછલા પાકના અવશેષો, નીંદણ, જૂની વેલા અને રોગગ્રસ્ત/ક્ષતિગ્રસ્ત છોડની સામગ્રી દૂર કરો. જીવાત અને રોગના ફેલાવાને ઘટાડવા માટે ખેતરની સીમાઓ સ્વચ્છ રાખો.	**फील्ड स्वच्छता**	पेरणी करण्यापूर्वी मागील पिकांचे अवशेष, तण, जुन्या वेली आणि रोगग्रस्त/खराब झालेले वनस्पतींचे अवशेष काढून टाका. कीड आणि रोगांचा प्रसार कमी करण्यासाठी शेताच्या सीमा स्वच्छ ठेवा.	**கள சுகாதாரம்**	விதைப்பதற்கு முன், முந்தைய பயிர்களின் எச்சங்கள், களைகள், பழைய கொடிகள் மற்றும் நோய் தாக்கிய/சேதமடைந்த தாவரப் பொருட்களை அகற்றவும். பூச்சி மற்றும் நோய் பரவுவதைக் குறைக்க, வயலின் வரப்புகளைச் சுத்தமாகப் பராமரிக்கவும்.	**క్షేత్ర పారిశుధ్యం**	విత్తనాలు నాటే ముందు గత పంటల అవశేషాలు, కలుపు మొక్కలు, పాత తీగలు మరియు వ్యాధి సోకిన/దెబ్బతిన్న మొక్కలను తొలగించండి. తెగుళ్లు మరియు వ్యాధులు వ్యాపించకుండా ఉండేందుకు పొలం సరిహద్దులను శుభ్రంగా ఉంచండి.	**ಕ್ಷೇತ್ರ ನೈರ್ಮಲ್ಯ**	**Bitter Gourd Crop Schedules for QR**
Soil requirement	Sandy loam to loam soil, well-drained, fertile, with good organic matter. Ideal pH-range: around 6.0-7.5. Avoid waterlogging, heavy clay or saline soil.	**मिट्टी की आवश्यकता**	बलुई दोमट से दोमट मिट्टी, अच्छी जल निकासी वाली, उपजाऊ और पर्याप्त जैविक पदार्थ युक्त। आदर्श पीएच सीमा: लगभग 6.0-7.5। जलभराव, अत्यधिक चिकनी मिट्टी या खारी मिट्टी से बचें।	**માટીની જરૂરિયાત**	રેતાળ લોમથી લોમ જમીન, સારા પાણીના નિતારવાળી, ફળદ્રુપ, સારા કાર્બનિક પદાર્થોવાળી. આદર્શ pH-શ્રેણી: લગભગ 6.0-7.5. પાણી ભરાવાનું, ભારે માટી અથવા ખારી માટી ટાળો.	**मातीची आवश्यकता**	वालुकामय चिकणमाती ते चिकणमाती प्रकारची जमीन, उत्तम निचरा होणारी, सुपीक, आणि चांगल्या सेंद्रिय पदार्थांनी युक्त. आदर्श pH-श्रेणी: सुमारे ६.०-७.५. पाणथळ जागा, जास्त चिकणमाती किंवा खारट जमीन टाळावी.	**மண் தேவை**	மணல் கலந்த வண்டல் மண் முதல் வண்டல் மண் வரை, நல்ல வடிகால் வசதியுள்ள, வளமான, சிறந்த கரிமப் பொருள் கொண்ட மண். உகந்த pH அளவு: சுமார் 6.0-7.5. நீர் தேங்குதல், அதிக களிமண் அல்லது உவர் மண் ஆகியவற்றைத் தவிர்க்கவும்.	**నేల అవసరం**	ఇసుకతో కూడిన బంకమట్టి నేల, నీరు నిలవని, సారవంతమైన, మంచి సేంద్రియ పదార్థం ఉన్న నేల. అనువైన pH పరిధి: సుమారు 6.0-7.5. నీరు నిలవని, బరువైన బంకమట్టి లేదా ఉప్పు నేలలను నివారించండి.	**ಮಣ್ಣಿನ ಅವಶ್ಯಕತೆ**	ಮರಳು ಮಿಶ್ರಿತ ಲೋಮ್ ನಿಂದ ಲೋಮ್ ಮಣ್ಣು, ಚೆನ್ನಾಗಿ ನೀರು ಬಸಿದು ಹೋಗುವ, ಫಲವತ್ತಾದ, ಉತ್ತಮ ಸಾವಯವ ಪದಾರ್ಥಗಳನ್ನು ಹೊಂದಿರುವ. ಸೂಕ್ತ pH ಶ್ರೇಣಿ: ಸುಮಾರು 6.0-7.5. ನೀರು ನಿಲ್ಲುವುದನ್ನು ತಪ್ಪಿಸಿ, ಭಾರವಾದ ಜೇಡಿಮಣ್ಣು ಅಥವಾ ಲವಣಯುಕ್ತ ಮಣ್ಣು.
Soil Testing	Conduct soil testing at least once every 2–3 years for EC, pH, OC, and macro-micro nutrients, and apply fertilizers based on test results.	**मृदा परीक्षण**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Climate Suitability	Climate Requirement Warm and humid conditions are ideal. Optimum temperature: 25–35 °C. Sponge gourd cannot tolerate frost or cold weather. Requires bright sunlight and moderate rainfall.	**जलवायु उपयुक्तता**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Land preparation	Land Preparation 2–3 ploughings followed by harrowing to get fine tilth. Add 10–12 tons of well-decomposed FYM per acre before final ploughing. Prepare ridges/furrows or raised beds for drainage.	**भूमि की तैयारी**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sowing Time	Sowing Time / Season • Summer crop: January–February (irrigated). • Kharif crop: June–July (rainfed). • Rabi crop: October–November (in southern or mild-winter regions).	**बुवाई का समय**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Seed rate & Spacing	Seed Rate / Sowing Method / Spacing Seed rate: ~2.0–2.5 kg per acre (≈ 5–6 kg/ha). Sowing method: Direct sowing in pits on ridges or beds; 3–4 seeds/pit at 2–3 cm depth, thin to 2 healthy seedlings later. Spacing: 2.0 m × 0.6–0.75 m (≈ 6.5 ft × 2–2.5 ft).	**बीज दर और दूरी**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Seed Treatment	Seed Treatment / Fungicide Treat seeds with Thiram or Captan @ 2 g/kg or Trichoderma viride @ 4 g/kg seed before sowing to prevent damping-off and fungal infection.	**बीज उपचार**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Weed Management	Weed Control Keep crop weed-free during first 40 days. First weeding ~20 days after sowing; second at ~40 days. Mulching (organic or plastic) is recommended to suppress weeds and maintain soil moisture.	**खरपतवार प्रबंधन**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fertilizer Management	Fertilizer & Nutrient Management (Per Acre) Organic manure: 8–10 t FYM before planting. Chemical fertilizers: • Urea – 65 kg (≈ 30 kg N) • SSP – 150 kg (≈ 24 kg P_2O_5) • MOP – 50 kg (≈ 30 kg K_2O) Application: Apply full P & K + ½ N as basal; remaining ½ N in two equal splits at 25 and 45 days after sowing.	**उर्वरक प्रबंधन**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Irrigation Management	Irrigation Management First irrigation after sowing; second after germination. Light irrigation every 3–5 days in summer, and 7–10 days in winter/rainy seasons. Avoid over-irrigation during flowering and fruiting stages to prevent rot.	**सिंचाई प्रबंधन**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pest Management	Pest Management 1. Fruit Fly: Install pheromone traps (8–10/acre); remove infested fruits. Spray Malathion @ 20 ml + Jaggery 100 g/10 L water. 2. Red Pumpkin Beetle: Spray Carbaryl @ 400 g/acre or Imidacloprid @ 60 ml/acre. 3. Aphids/Whitefly/Thrips: Use yellow sticky traps (10/acre); spray Dimethoate 30 EC @ 300 ml/acre or Neem oil @ 3%.	**कीट प्रबंधन**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Disease Management	Disease Management 1. Powdery Mildew: Spray Wettable Sulphur @ 20 g/10 L water or Hexaconazole @ 1 ml/L every 10–15 days. 2. Downy Mildew: Spray Metalaxyl + Mancozeb @ 2 g/L water on early symptoms. 3. Mosaic Virus: Control whiteflies and aphids with Imidacloprid @ 0.3 ml/L; remove infected plants. 4. Anthracnose: Spray Mancozeb @ 2.5 g/L or Copper Oxychloride @ 3 g/L at 10-day intervals.	**रोग प्रबंधन**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Harvesting & Yield	Harvesting / Yield First harvest ~50–55 days after sowing. Pick fruits when tender and green; frequent picking every 2–3 days ensures continuous fruiting. Average yield: 100–120 quintals/acre (under good management).	**कटाई और उपज**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Post-Harvest Management & Storage	Post-Harvest Handling Harvest early in the morning; handle gently to avoid bruising. Sort and grade by size and color. Pack in bamboo baskets or ventilated crates lined with paper/straw. Transport under shade to reduce post-harvest losses.	**फसल कटाई के बाद का [illegible]**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Disclaimer	These recommendations are based on SAUs, government agencies, and trial centers. Actual results may vary depending on soil type, climate, variety, and crop management practices.	**अस्वीकरण**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]