

Crop Name	Scientific Name	Soil Type	NPK Recommendation (kg/h: Growth Time		Potential Diseases	Phenotypic Output	Cultivation Style
Ragi	Eleusine coracana	Loamy, sandy loam	02:01:01	3-5 months	Blast, Mosaic	Spiked panicle, finger-like spikes	Intercropping with pulses
Bhendi (Lady's Finger)	Abelmoschus esculentus	Loamy soils	01:01:01	45 days	Wilt, Mildew	Tapering pods	Sown in rows
Banana	Musa spp.	Rich loamy	02:01:02	8-11 months	Leaf Spot, Wilt	Herbaceous perennial	Soil with good drainage
Cashewnut	Anacardium occidentale	Red sandy loam	01:01:01	5-10 kg/tree	Dieback	Leathery leaves, curved fruit	Pits with organic manure
Carrot	Daucus carota	Loose loamy	01:01:01	3-5 months	Leaf Spot, Rot	Edible taproot	Raised beds, loamy soil
Grapes	Vitis vinifera	Well-drained loamy	01:01:02	Year-round	Mildew	Woody vine, grape clusters	Planting pits filled with FYM
Papaya	Carica papaya	Fertile tropical	01:01:01	6-9 months	Mildew, Mosaic Virus	Palmately lobed leaves	Pits with organic manure
Groundnut	Arachis hypogaea	Sandy loam	01:02:03	90-120 days	Leaf Spot, Rust	Herbaceous plant	Row planting in furrows
Millet	Pennisetum glaucum	Alluvial, sandy	70:35:35	60-100 days	Mildew, Rust	Tall stalks, dense seeds	Grown in rows
Pineapple	Ananas comosus	Loamy, well-drained	14:03:10	15-18 months	Rot, Fusariosis	Short herbaceous perennial	High-density planting
Sapota	Manilkara zapota	Sandy loam, alluvial	02:01:01	4-5 months	Leaf spot, Sooty mold	Round or oval fruit	High-density planting
Guava	Psidium guajava	Well-drained loamy	01:01:01	3-4 years	Wilt, Canker	Small branched tree	Raised beds with compost
Arecanut	Areca catechu	Red laterite	01:01:01	35-47 weeks	Bud rot, Fruit rot	Palm with tall stem	Spacing-based planting
Cocoa	Theobroma cacao	Clay loam, sandy loam	28:01:06	5 years	Black Pod, Witches' Broom	Woody perennial	Intercropping with shade trees
Beans	Phaseolus spp.	Loamy soil	01:01:01	2-3 months	Leaf Spot, Blight	Broad leaves, climbing vines	Row planting with trellises
Bitter Gourd	Momordica charantia	Sandy loam	01:02:02	5-6 months	Mildew, Leaf Spot	Cylindrical or spindle fruit	Raised beds with drip irrigation
Cauliflower	Brassica oleracea var. botrytis	Loamy soil	01:01:01	3-4 months	Mildew, Leaf Spot	Firm, succulent curd	Protray seedling transplant
Bamboo	Bambusoideae	Loamy, well-drained	01:01:01	5-6 years	Spots, Rot	Woody perennial	Rhizome or culm planting
Potato	Solanum tuberosum	Sandy, well-drained	01:01:01	75-120 days	Blight, Rot	Tubers of diverse shapes	Rows with organic manure
Wheat	Triticum aestivum	Clay loam, loam	80:40:40	7-8 months	Rusts, Powdery Mildew	Golden fields in spring	Well-pulverized seedbed
Tomato	Solanum lycopersicum	Well-drained loamy	200:250:250	50-80 days	Damping off, Wilt	Varies in size and shape	Warm season crop
Chilli	Capsicum annum	Well-drained loamy	01:02:01	80-90 days	Wilt, Leaf Curl	Highly branched herb	Sandy or loam soils
Black Pepper	Piper nigrum	Red laterite	01:01:03	7-8 months	Foot Rot, Wilt	Slender spikes with blossoms	Monocrop or mixed crop
Bellary Onion	Allium cepa	Sandy loam, clay loam	02:02:01	80-150 days	Leaf Blight, Mildew	Bulb at base, hollow leaves	Seeds or bulbs
Lemon	Citrus limon	Well-drained loamy	08:02:10	3-5 years	Citrus Canker	Oval fruit, juicy pulp	Organic manure application
Garlic	Allium sativum	Well-drained loamy	08:03:02	6-8 months	Root Rot, Pink Root	Bulbs with cloves	Beds with organic manure
Cotton	Gossypium	Alluvial, clayey	120:60:60	90-150 days	Wilt, Blight	Sub-shrub with rigid stems	Rows planting
Maize	Zea mays	Fertile, well-drained	153:62.5:50	90-110 days	Leaf Blight, Rust	Tall, determinate plant	Sown in rows
Sugarcane	Saccharum officinarum	Loam, alluvial	05:05:02	12-18 months	Red Rot, Smut	Tall perennial	Propagated by cuttings
Cashew	Anacardium occidentale	Red sandy loam	01:01:01	5-10 kg/tree	Dieback	Leathery leaves, curved fruit	Pits with organic manure
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