

A Neglected Tuber with Bright Prospects: Chinese Potato

**Basavaraj T.¹,
Vidya¹ and
Jahanavi K.²**

¹Assistant Professor, Department
of Vegetable Science,
Sri Krishnadevaraya College of
Horticultural Sciences,
Anantapur- 515 002, Andhra
Pradesh, India

²M. Sc (Hort.) in Vegetable
Science, College of Horticulture,
Bengaluru



*Corresponding Author
Basavaraj T.*

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INTRODUCTION

Chinese potato [*Plectranthus rotundifolius* (Poir.) Spreng.], also known as country potato or koorka, stands out as a promising yet largely neglected tuber crop. In the quest for resilient, nutritious and climate-adaptive crops, several underutilized species are gradually receiving renewed scientific and agricultural attention. Traditionally cultivated in small pockets of South India, parts of Africa and Southeast Asia, this crop has remained confined to subsistence farming despite its notable agronomic and nutritional advantages.

In recent years, the increasing emphasis on crop diversification, nutritional security and sustainable agriculture has revived interest in Chinese potato. Its ability to thrive under marginal conditions, coupled with its short duration and minimal input requirements, makes it an ideal candidate for smallholder and resource-poor farmers. This article presents a comprehensive overview of the botanical features, agronomic practices, nutritional value and future prospects of Chinese potato, highlighting its practical relevance to both the farming community and research fraternity.

Botanical Description and Growth Characteristics

Chinese potato belongs to the family Lamiaceae and is a low-growing, herbaceous perennial cultivated as an annual for its edible underground tubers. The plant exhibits a spreading growth habit with succulent, quadrangular stems and opposite leaves that are ovate to elliptic in shape. It produces small, pale purple or bluish flowers arranged in terminal spikes, although flowering is relatively rare under cultivation conditions.

The most economically important part of the plant is its cluster of small, rounded tubers, which develop underground from stolon-like structures. These tubers are typically brownish with a thin skin and creamy white flesh. The crop has a growth duration of approximately 90–120 days, making it suitable for short-season cultivation. Its shallow root system and compact growth habit allow it to be grown efficiently in intercropping and mixed farming systems.

Agroecological Adaptation and Cultivation Requirements

Chinese potato is well adapted to tropical and subtropical climates, particularly in regions with moderate rainfall and warm temperatures ranging from 20°C to 30°C. It performs well under partial shade, making it suitable for cultivation in coconut plantations, orchards and homestead gardens.

Soil and Climate

The crop prefers well-drained sandy loam to loamy soils rich in organic matter. It tolerates mildly acidic to neutral pH conditions and performs reasonably well even in marginal soils.

Propagation and Planting

Propagation is primarily through seed tubers. Healthy, disease-free tubers are planted at a spacing of 30 × 20 cm. The crop is generally planted at the onset of the rainy season to ensure adequate moisture for establishment.

Nutrient Management

Chinese potato responds well to organic manures such as farmyard manure or compost. A moderate dose of balanced fertilizers (particularly phosphorus and potassium) enhances tuber development.

Water and Weed Management

Although relatively drought-tolerant, the crop benefits from consistent soil moisture during tuber initiation and development. Timely weeding is essential during early growth stages to minimize competition.

Nutritional and Culinary Value

Chinese potato is a rich source of carbohydrates, making it an energy-dense food crop. In addition to starch, the tubers contain moderate amounts of protein, dietary fiber and essential minerals such as potassium, calcium and iron. They are also easily digestible, making them suitable for all age groups.

Culinarily, Chinese potato is highly versatile. It is used in a variety of traditional dishes, including curries, stir-fries and stews. Its unique flavor and texture have contributed to its popularity in regional cuisines, particularly in Kerala and coastal Karnataka. The crop also

holds potential for value addition through processing into chips, flour and ready-to-cook products.

Role in Sustainable and Diversified Farming Systems

One of the most compelling attributes of Chinese potato is its compatibility with diversified and low-input farming systems. Its short duration allows it to be integrated into multiple cropping sequences, including as a catch crop or intercrop in plantation systems.

Key Contributions to Sustainability

- Efficient land use: Can be cultivated in small spaces and under shade
- Low input requirement: Minimal need for fertilizers and pesticides
- Soil health improvement: Organic matter addition through crop residues
- Risk mitigation: Provides an additional income source in mixed farming systems

Economic Potential and Market Opportunities

Although currently underexploited, Chinese potato has significant market potential. In regions where it is traditionally consumed, it commands premium prices due to its unique taste and limited availability. The crop offers opportunities for:

- Niche market development in urban and health-conscious consumer segments
- Value-added products such as dehydrated tubers and snack items
- Export potential, especially to regions with diaspora populations

For farmers, the crop represents a low-risk, high-value option, particularly when integrated into existing cropping systems.

Constraints and Challenges

Despite its promising attributes, several factors limit the widespread adoption of Chinese potato:

- Limited availability of quality planting material
- Lack of improved, high-yielding varieties
- Labour-intensive harvesting due to small tuber size

- Poor awareness among farmers and consumers
- Inadequate research on crop improvement and post-harvest technologies

Research and Development Needs

To unlock the full potential of Chinese potato, focused research interventions are essential:

- Genetic improvement for yield and tuber size
- Development of mechanized harvesting techniques
- Standardization of agronomic practices
- Post-harvest handling and storage technologies
- Value chain development and market linkage strategies

Future Prospects

With growing interest in underutilized crops and sustainable agriculture, Chinese potato is poised for a resurgence. Its adaptability, nutritional value and compatibility with low-input systems align well with the goals of climate-smart agriculture. Promotion through

extension programs, farmer training and inclusion in government schemes can enhance its adoption. Additionally, integrating Chinese potato into urban agriculture and kitchen gardens can contribute to household nutritional security.

CONCLUSION

Chinese potato, though long neglected, holds immense promise as a resilient, nutritious and economically viable tuber crop. Its ability to thrive under marginal conditions, coupled with its culinary appeal and market potential, makes it a valuable addition to diversified farming systems. For the farming community, it offers an opportunity to enhance income and resilience. For researchers, it presents a fertile ground for innovation in crop improvement and sustainable agriculture. As the agricultural sector moves toward diversification and sustainability, Chinese potato stands ready to reclaim its place as a crop of significance truly a neglected tuber with bright prospects.