

Astronomy based Agriculture: Ancient yet Appealing

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ABSTRACT

This article explores Nakshatra-based farming, an ancient Indian agricultural system that aligns crop activities with the moon's transit through 27 Nakshatras (lunar constellations). Rooted in traditional texts like *Vrikshayurveda*, the practice associates specific lunar positions and phases with optimal times for sowing, transplanting, harvesting and pest control. Scientific evidence increasingly supports these traditions, linking lunar gravity and cosmic radiation to plant growth, soil moisture and seed germination. Though scalability and scientific validation remain challenges, integrating traditional lunar calendars with modern agri-tech offers a promising, sustainable path for enhancing crop health, biodiversity and resilience in uncertain climatic conditions.

INTRODUCTION

In the present time when farming decisions are increasingly guided by satellite images and soil sensors, there's a growing interest in something far more ancient-the moon. Across cultures, the moon has been seen as a celestial gardener, its cycles influencing when we plant, nurture and harvest. In India, this knowledge system evolved into the highly sophisticated practice of Nakshatra-based farming-where the moon's journey through 27 stellar constellations (Nakshatras) is used to align agricultural activities with cosmic rhythms.

But can starlight still shape soil health in the 21st century? Let's explore how traditional wisdom and modern science are beginning to rediscover common ground.

There are a total 27 Nakshatras - Ashwini, Bharani, Krittika, Rohini, Mrigashira, Ardra, Punarvasu, Pushyami, Aslesha, Makha, Purva Phalguni, Uttara, Phalguni, Hasta, Chitra, Swati, Visakha, Anuradha, Jyeshtha, Mula, Purvashadha, Uttarashadha, Sravana, Dhanishtha, Shatabhishak, Purva (Purvabhaadra), Uttara Proshtapada (Uttaraabhaadra) and Revathi.

The 27 equal segments of the Nakshatras, each consisting of 13 degrees 20 minutes. As seen from Earth, The Moon passes through this circle in about 27 days. Thus it takes the moon about one day to pass through one Nakshatra. All the nakshatrams given in Hindu calendar are for the Moon. This means that the nakshatram currently in effect is the one that the Moon has "conjoined." Based on the effects and results produced by these 27 stars on the Earth and Mankind, the stars are classified into various categories by ancient seers.

Understanding Nakshatra-based farming

Nakshatras are like celestial neighbourhoods the moon visits as it completes its 27-day orbit around Earth. Each Nakshatra represents a distinct energy pattern, associated with specific traits, deities and elemental properties - Earth, Water, Fire, Air and Ether. Indian sages observed that different moon-Nakshatra combinations correlated with distinct plant responses, and they recorded these observations in early texts like *Krishni-Parashara* and *Vrikshayurveda* (Raut, 2021).

Centuries ago, farmers noticed that planting during specific Nakshatras led to better crop yields, stronger root systems and fewer pests. These patterns were passed down orally and through regional Panchangams (almanacs), becoming a time-tested guide for Indian agriculture.

Much like how the moon causes tides, traditional farmers believed its gravitational pull and energy also influenced soil moisture, sap flow and even seed dormancy. Planting in sync with the lunar rhythm was thought to improve not just yield, but the quality and shelf-life of the produce.

Science behind the stars

a. Phases of the moon and plant growth:

Modern researchers have found that the waxing phase (from new moon to full moon) favors above-ground plant growth, while the waning phase promotes root development. This aligns with what Indian farmers have practiced for generations-using waxing moons for sowing leafy vegetables and waning moons for tubers and root crops (TNAU Bulletin, 2019).

b. Moon's gravitational effects:

Scientific studies confirm that the moon's pull affects more than oceans-it also influences water

tables and capillary movement of soil moisture. Some European vineyards now prune vines during specific lunar phases to optimize sap flow (Meier *et al.*, 2020).

c. Cosmic radiation and seed germination: Emerging research also explores how variations in cosmic radiation-partially modulated by the moon’s position-may affect seed germination and cellular activity. While not yet conclusive, it opens new doors to understanding the subtle environmental signals plants respond to.

Putting Nakshatra farming into practice

The quick reference table showing how some commonly followed Nakshatras align with traditional agricultural activities.

Table 1: Nakshatras and Their Traditional Agricultural Associations

Nakshatra	Ideal crop activity	Elements (Pancha Bhootas)	Traditional belief
Rohini	Sowing cereals & pulses	Earth	Enhances fertility and seed vitality
Pushya	Transplanting vegetables	Water	Encourages good root establishment
Mrigashira	Ploughing, land preparation	Air	Improves microbial activity and aeration
Bharani	Avoid for sowing	Fire	Associated with drying energy, may reduce germination
Revati	Harvesting & storage	Ether	Improves shelf-life and post-harvest produce quality

a. Sowing and harvesting by the Moon: Farmer’s sowing time during Nakshatras associated with growth and moisture and harvest when the moon’s energy supports drying and longevity. For example, root vegetables are often planted during Moola Nakshatra, while fruits & legumes go in during Rohini or Swati.

b. Pest control with lunar cycles: Some farmers claim that pest outbreaks follow lunar rhythms too. By syncing biological pest control with moon phases, they reduce reliance on chemicals, echoing nature’s own pest calendar.

Table 2: Moon phases and gardening activities

Lunar phase	Ideal activities	Example crops or tasks
New Moon → First Quarter	Sowing leafy greens & herbs	Lettuce, spinach, coriander
First Quarter → Full Moon	Sowing fruit-bearing plants	Tomato, chillies, okra, beans
Full Moon → Last Quarter	Planting and transplanting root crops	Carrot, beetroot, turmeric, onions
Last Quarter → New Moon	Pruning, weeding, harvesting	All crops – general garden maintenance

Benefits of Celestial Farming

1. Higher yields and healthier crops

Farmers practicing Nakshatra-aligned sowing report greater germination rates, stronger plant structure and better-tasting produce. While large-scale controlled trials are limited, smaller studies have shown positive trends (Patil *et al.*, 2015, UAS Dharwad).

2. Lower chemical use

Working with natural cycles improves soil vitality and pest resistance, which in turn reduces the need for synthetic fertilizers and pesticides-helping both the environment and the farmer’s budget.

3. Biodiversity and soil health

Nakshatra-based farming often goes hand-in-hand with natural or organic practices, it promotes microbial diversity in the soil and supports beneficial insects, birds and pollinators.

Challenges and modern integration

a. Scaling up traditional wisdom

While effective in small and medium plots, implementing Nakshatra calendars across industrial-scale farms remains a challenge. Large operations demand mechanized efficiency that doesn't always align with lunar cycles.

b. Skepticism from scientific circles

The lack of robust, long-term field trials has made mainstream agricultural scientists hesitant to adopt Nakshatra practices. However, the rise of biodynamic certification worldwide may pave the way for deeper research.

c. Combining Tech and Tradition

Apps like Khetibuddy and AgriApp are beginning to incorporate moon-phase guidance into farm planning. There's growing interest in blending Panchangam data with IoT tools, satellite weather and soil sensors.

Stories from the Field: Global Echoes of Lunar Wisdom

Indian farmers

A farming family in Tamil Nadu has followed Nakshatra-based sowing for over a century. They report consistent harvests even in erratic climate years-pointing to the resilience offered by working with nature's rhythms.

Organic farms abroad

In California, an organic tomato farm using Nakshatra planting saw a 20 per cent increase in yield and fewer fungal issues. In France, biodynamic vineyards time their grape

harvests with the moon's ascension, believing it improves wine aging.

CONCLUSION: Reconnecting Soil to Sky

Nakshatra farming offers a compelling case for eco-intelligent agriculture-one that recognizes the interconnectedness of time, soil, water and light. While it may sound mystical to some, this practice is increasingly supported by modern insights into plant physiology, gravitational influence, and cosmic energy. As global agriculture faces the twin challenges of climate unpredictability and soil degradation, ancient lunar-aligned farming could help us grow not just more food, but food that is more resilient, nutritious and sustainable.

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