How to Plant by the Moon Phases

The six-step lunar sowing method, what root and leaf days actually mean, and the evidence on whether any of it works.

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To plant by the moon phases you sow leafy crops as the moon waxes, root crops as it wanes, and mark the four day types Maria Thun defined. Moon Phase Calendar does that maths on the phone itself for any date from 1900 to 2100, free, on iPhone and Android, with no signal needed.

Disclosure: AppStoryo is operated by the studio that develops Moon Phase Calendar. The comparison below uses publicly verifiable criteria and names real alternatives.

Procedure first, then the evidence, then the thing that decides far more than the moon. Every step runs in Moon Phase Calendar Offline on iPhone or Moon Phase Calendar on Android.

How do you plant by the moon phases, step by step?

A lunar month runs 29.5 days from one new moon to the next: a waxing half, when the lit fraction grows from 0 to 100 per cent, and a waning half. Tradition assigns above-ground crops to the first half, below-ground crops to the second.

1. **Read today's phase.** Check the illumination percentage and lunar age. Between new moon and full moon is waxing.
2. **Sow leaf and fruit crops while it waxes:** lettuce, chard, beans, tomatoes, squash.
3. **Sow root crops and transplant while it wanes:** carrot, beet, radish, onion, parsnip, plus most pruning.
4. **Check the day type.** The moon crosses into a new zodiac constellation every two or

three days, turning a date into a root, leaf, flower or fruit day.

5. **Let soil temperature overrule the moon.** In a cold bed a perfect leaf day still rots the seed.
6. **Log it.** Date, phase, day type, crop, and the day seedlings appeared. Two seasons of that gives you your own data.

Only steps one and four need astronomy, and both work offline in Moon Phase Calendar Offline on iPhone and Moon Phase Calendar on Android.

What do root, leaf, flower and fruit days actually mean?

They come from one person and a long run of radish trials. Maria Thun, born in Germany in April 1922 and died in February 2012, sowed identical seed on different days and recorded the differences. Floris Books, her publisher, sets out the result on its page about her work:

> From her observations she divided passage of the moon through the zodiac into four: root days, leaf days, fruit days and flower days, each indicating which type of plant is best sown on each specific day.

That calendar has been published annually for about 50 years and now appears in 27 languages, so an app showing a leaf day is almost always showing Thun's scheme. Moon Phase Calendar labels dates the same way, matching a printed Thun calendar without ever contacting a server.

Does planting by the moon phases actually work?

The tradition is old and widespread, and the measurements do not support it. A 2020 review in the journal Agronomy went through more than 120 scientifically supported references looking for a mechanism. Illinois Extension's summary of that review carries the number that matters: the moon's gravitational influence at the Earth's surface is roughly 300,000 times weaker than the Earth's own, imperceptible next to the force that lifts sap up a stem.

Light is no better. Full-moon illuminance is about 128,000 times lower than the weakest ordinary daylight, far under any threshold that changes photosynthesis. The review found no consistent relationship between lunar phase and plant physiology in textbooks or the peer-reviewed literature. One tangential finding survived: a shrub produced more pollen under a full moon, because its pollinators navigate by moonlight.

So treat the lunar calendar as a scheduling habit, not a yield lever. It costs nothing and gives a garden a rhythm. It will not rescue a crop sown into cold mud.

What really decides when your seeds come up?

Soil temperature, by an enormous margin. The table OSU Extension publishes from J. F. Harrington's experiment gives days to emergence at measured soil temperatures.

- Tomato: 43 days to emerge at 50 degrees Fahrenheit, 6 days at 77.
- Lettuce: 49 days at 32 degrees, 2 days at 77.
- Parsnip: 171 days at 32 degrees, 14 days at 68.

- Onion: 135 days at 32 degrees, 4 days at 77.
- Beans: little or no germination at all below about 59 degrees.

Alabama Extension's publication ANR-1061 lists the minimum soil temperature each crop needs: 35 degrees for lettuce, onion, parsnip and spinach, 40 for beet, carrot and pea, 50 for asparagus, corn and tomato, 60 for bean, cucumber and squash. A soil thermometer costs less than a packet of seed. Use the moon to choose between two workable weeks, never to sow a fortnight early.

How do you follow a lunar planting calendar with no signal?

Allotments and orchards are exactly where coverage fails, and most lunar apps fetch their data. Moon Phase Calendar computes everything on the device, so the figures appear in airplane mode.

- Phase, illumination, lunar age and distance for any date from 1900 to 2100, 201 years.
- Moonrise and moonset for your coordinates, plus civil, nautical and astronomical twilight.
- Root, leaf, flower and fruit labels, with tropical and sidereal zodiac signs.
- No account, no analytics, no ads, no in-app purchases.

The iOS build is 35.4 MB, needs iOS 13.0 or later and ships with 44 store languages. Install Moon Phase Calendar Offline on iPhone or Moon Phase Calendar on Android before you leave, not once you are in the field.

Which lunar planting app should you actually use?

All three alternatives were checked on their live App Store listings on 19 September 2026. All four are free to download.

Choose Biodynamic Gardening Calendar if you want the Thun calendar itself

- Published by Floris Books, publisher of the printed Maria Thun calendar, so the day types come from the source.
- Version 1.6.15, updated 31 August 2026, iOS 15.0, 45.6 MB.
- 12 ratings averaging 2.9 stars, the lowest of the four.

Choose Lunar Planting Guide if you want a garden diary around the calendar

- Tim Mahony built it as a planting diary: record what you sowed, review it next season.
- Version 8.2, updated 17 September 2026, iOS 17.6, 120.3 MB, so older iPhones are out.
- Only 3 ratings so far, thin evidence either way.

Choose Seed to Spoon if you would rather ignore the moon entirely

- JP Garden's planner schedules from frost dates and crop requirements, the approach

the evidence supports.
- 9,270 ratings averaging 4.78 stars, updated 7 May 2026, 83.1 MB.
- It will not tell a leaf day from a root day.

Choose Moon Phase Calendar if you want the lunar data offline and unmonetised

- Every figure is computed on the device, so it needs no signal and no account.
- Day types sit beside moonrise, twilight, eclipses and solunar windows, covering gardening and night-sky planning.
- It is new, carries no ratings yet, and has no planting diary.

When is planting by the moon the wrong approach?

Skip the lunar calendar whenever the decision is already forced: the last frost has not passed, the soil sits below the minimum above, rain is due for six days, or your only free afternoon is a root day and you hold leaf seedlings. Plant anyway. It is a tie-breaker between two workable dates, not a gate.

Skip it entirely for commercial planning and certification paperwork: the day types are a gardening convention, not an audited standard. If you want an app that says what to sow this week, a crop planner beats any lunar calendar, this one included.

If you want the rhythm anyway, in a field with no coverage, get Moon Phase Calendar Offline for iPhone or Moon Phase Calendar for Android, and pair it with a soil thermometer.

What else do people ask about planting by the moon?

Which moon phase is best for planting?

Tradition puts above-ground crops such as lettuce, beans and tomatoes in the waxing half of the 29.5-day cycle, and root crops such as carrot, beet and onion in the waning half. No controlled study supports the split, so it is a convention, not a rule.

What is a leaf day or a root day?

They are the four day types Maria Thun derived from the constellation the moon is passing through, changing every two or three days. Leaf days suit lettuce and cabbage, root days carrot and beet, flower days broccoli, fruit days tomato and beans.

Is planting by the moon scientifically proven?

No. A 2020 Agronomy review of more than 120 references found no reliable evidence linking lunar phase to plant physiology. The moon's gravitational pull at the surface is around 300,000 times weaker than the Earth's own, and full-moon light roughly 128,000 times dimmer than daylight.

Do I need internet to check moon phases for planting?

Not with an offline calculator. Moon Phase Calendar computes phase, illumination, lunar age,

moonrise, moonset and day type on the device for any date from 1900 to 2100, so it works in airplane mode. Apps that fetch data go blank where gardens are.

Does the moon affect germination speed?

Not measurably. Soil temperature does. Harrington's table shows tomato emerging in 43 days at 50 degrees Fahrenheit against 6 days at 77, and lettuce in 49 days at 32 degrees against 2 at 77. No lunar effect of that size has been recorded.

When should I prune according to the moon?

The traditional rule puts pruning and harvesting for storage in the waning half, on the theory that sap is lower. Nothing in the reviewed literature supports it. Prune when the plant is dormant, the wood dry and no frost forecast.

Can I use a lunar calendar in the southern hemisphere?

Yes. The phase is the same everywhere on Earth at a given moment, although the lit side looks flipped. What changes is moonrise and moonset time, so use an app computing those from your own coordinates, not a calendar printed for one country.

What should I buy before a moon calendar app?

A soil thermometer. Alabama Extension's ANR-1061 table gives minimums of 35 degrees Fahrenheit for lettuce and onion, 40 for carrot and pea, 50 for tomato and corn, 60 for bean and squash. Knowing which side of those numbers your bed sits on beats any lunar schedule.

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