

THE FARMER'S KNIFE

Farming Companion & Field Calculator

User Manual & Onboarding Guide

Field: Niche But Brilliant · Knife 23 of 50 · \ Offline.Ltd

9 TOOLS	100% OFFLINE	∞ FREE UPDATES	1 SINGLE FILE
-------------------	------------------------	--------------------------	-------------------------

This manual covers every tool in The Farmer's Knife — from moon phase planting to Brix conversion, from the Season Planner wizard to the Garden Journal. It includes input/output references, use cases, troubleshooting, a glossary of farming terms, and keyboard shortcuts. Designed for screen reading (dark edition) or printing (light edition). A companion Markdown version is included for AI assistant upload.

Version 2.0 · For use with The_Farmer_s_Knife.html

Table of Contents

1 Getting Started

System requirements, first open, the welcome screen

2 Interface Overview

Header, tab bar, content area, tooltips, footer

3 Saving & File Management

Auto-save, export, import, per-tool backups

4 My Farm — Daily Briefing

Farm profile setup and personalised morning report

5 Season Planner — My Year

Gantt-style calendar, seed needs, moon quarters

6 Garden Journal

Daily log, Memory Lane, progress bars, year-over-year charts

7 Moon Phase — Planting Guide

Lunar cycle, quarter recommendations, 30-day calendar

8 Frost Date Calculator

Growing season length and planting schedule

9 Seed Spacing Calculator

Plant counts, row layout, visual spacing diagram

10 Fertilizer Ratio Tool

NPK ratios, product amounts, presets

11 Livestock Weight Estimator

Tape-weight formulas, dressed weight, feed rates

12 Brix Converter

Refractometer readings, quality rating, crop benchmarks

13 Keyboard Shortcuts

Quick navigation and export

14 Troubleshooting

Common issues and solutions

15 Accuracy & Limitations

What to trust and what to verify

16 Glossary

Farming, soil, and measurement terms

1 Getting Started

The Farmer's Knife is a single HTML file containing nine agricultural tools plus file management and help. No installation, no internet, no account. Open it in any modern browser and start working.

System Requirements

Browser	Version	Notes
Chrome / Edge	90+	Full support including date pickers
Firefox	88+	Full support
Safari	14+	Full support on macOS and iOS
Opera	76+	Chromium-based, full support
Mobile browsers	Any modern	Touch-friendly, responsive layout

How to Open

Double-click the HTML file on any computer, or tap it on a phone/tablet. It opens in your default browser. Everything runs locally — your data never leaves your machine. Works in airplane mode, in a barn, in a field with no signal.



PRO TIP

E-mail the HTML file to your own webmail account. Open it on any device, work, export your state, e-mail it back. Your personal cloud, without the cloud.

The Welcome Screen

On first open, a welcome modal explains how the knife works: your state is saved automatically in localStorage, and you can export/import it via the Files tab. Click "Got it — open the knife" to dismiss. The modal won't appear again on that browser.

2 Interface Overview

The interface has five zones: header, tab bar, content area, disclaimer bar, and toast notifications.

The Header

Top-left: the knife emoji (🔪) and product name. Top-right: the field category ("Niche But Brilliant") and knife number ("Knife 23 of 50 — Offline.Ltd"). A green left border marks the field colour.

The Tab Bar

Tab	Shortcut	Description
■ My Farm	—	Farm profile setup and daily briefing
■ My Season	—	Season Planner wizard with Gantt timeline
■ Journal	—	Garden journal and Memory Lane
Moon Phase	Ctrl+1	Lunar phase and planting guidance
Frost Dates	Ctrl+2	Growing season and planting schedule
Seed Spacing	Ctrl+3	Plant counts and row layout
Fertilizer Ratio	Ctrl+4	NPK calculator with presets
Livestock Weight	Ctrl+5	Tape-weight estimator
Brix Converter	Ctrl+6	Refractometer conversion and quality
■ Files	—	Export, import, clear data
? Help	Ctrl+H	Documentation and search

Tooltips

Fields with an ■ icon have tooltips. Hover (desktop) or tap (mobile) to reveal. Tap elsewhere to dismiss.

The Disclaimer Bar

Fixed at the bottom of the page: "Estimates only — not a substitute for soil tests, vet advice, or extension guidance." The version number appears at the right.

3 Saving & File Management

Every input you change is automatically saved to your browser's localStorage. An amber dot appears on the ■ Files tab when unsaved changes exist. State is also auto-persisted every 15 seconds.

Exporting State

1. Go to the ■ Files tab.
2. Click **Export All** ↓.
3. A JSON file downloads: `farmer.knife.state_YYYY-MM-DD.json`.
4. Keep this file alongside the HTML file for full portability.

Importing State

1. Go to the ■ Files tab.
2. Click **Import All** ↑ and select a state JSON file.
3. All tool values are restored instantly.



CAUTION

Importing overwrites all current tool values. Export first if you want to keep your current state.

Per-Tool Export

Each tool can be exported and imported individually from the ■ Files tab. Useful for sharing a single tool's configuration without overwriting everything else.

Clearing All Data

Click **Clear All Data** in the Files tab. A confirmation dialog appears. This erases all localStorage entries for the knife and reloads the page.



PRO TIP

Name your state files by season: `farmer.spring_2026.json`, `farmer.autumn_2026.json`. Import the relevant one when the season changes.

4 My Farm — Daily Briefing

The My Farm tab lets you set up a one-time profile — USDA zone, hemisphere, soil type, latitude, farm size, bed count, and the crops you grow. Once saved, the Daily Briefing panel appears at the top showing personalised information every time you open the Knife.

Inputs

Field	Description
USDA Zone	Plant hardiness zone (3–10) or Southern Hemisphere equivalent
Hemisphere	Northern or Southern — affects frost date calculations
Soil type	Clay, Loam, Sandy, Silt, Peat, or Chalky
Farm size	Numeric value with unit (acres, hectares, sq ft)
Latitude	Decimal degrees (optional) — improves frost and sun estimates
Main crops	Multi-select from the built-in seed database (click chips to toggle)
Number of beds	Total raised beds or planting rows

Outputs

Field	Description
Daily Briefing	Moon phase, planting guidance, frost countdown, soil tips, companion planting matches, and latest Brix/weight readings from the Journal
Farm Summary	Preview of your saved profile data

Use Cases

Set this up on your first session. Every other tool in the Knife becomes more useful because the briefing contextualises data from the Moon, Frost, and Journal tools into a single morning summary.

Common Difficulties

Problem	Cause & Solution
Briefing shows generic message	Profile not set up yet — enter at least a zone and select crops
Crops not appearing	Click crop chips to select them (green = selected)



PRO TIP

The briefing gets smarter as you add journal entries. Log Brix readings and plantings regularly to see them reflected in your morning summary.

5 Season Planner — My Year

The Season Planner generates a complete Gantt-style growing calendar from your profile. Select a year and click **Build My Season**. The Knife calculates exact dates for starting indoors, direct sowing, transplanting, and harvesting — overlaid with frost zones and moon quarter recommendations.

Inputs

Field	Description
Year	The planning year (default: current year)

Outputs

Field	Description
Gantt timeline	Visual bar chart showing indoor start, growing, and harvest windows per crop
Frost overlays	Shaded zones showing pre-spring and post-autumn frost periods
Crop detail cards	Per-crop breakdown: dates, seed quantity (+15% buffer), NPK recommendation, best moon quarter
Stats	Total crops planned, total seeds needed, growing days, bed count

Use Cases


Plan your entire year in 8 seconds. Print the Gantt chart and tape it to the barn wall. Change the year to plan ahead or compare crop rotations between seasons.

Common Difficulties

Problem	Cause & Solution
'Set up your Farm Profile first' message	The planner needs zone and crops from the My Farm tab
Dates look wrong	Check that your zone in the profile matches your actual location — zones determine estimated frost dates



PRO TIP

Hit the  Print button to generate a printer-friendly version using your browser's built-in print CSS. Only the Season Planner content prints.

6 Garden Journal

A daily log that becomes your farm's living memory. Record plantings, Brix readings, livestock weights, harvests, weather observations, or freeform notes. Each entry is automatically tagged with that day's moon phase.

Inputs

Field	Description
Date	Entry date (defaults to today)
Type	Note, Planting, Brix Reading, Livestock Weight, Harvest, or Weather
Crop / Animal	Optional — what the entry relates to
Value	Optional — Brix degrees, weight in lbs, quantity harvested
Notes	Freeform text for observations and details

Outputs

Field	Description
On This Day...	Shows entries from the same calendar date in previous years
Brix Chart	Year-over-year bar chart (appears with 2+ Brix readings)
Weight Chart	Year-over-year bar chart (appears with 2+ weight readings)
Crop Progress	Days-to-harvest progress bars for logged plantings
Entry Cards	Filterable, deletable log with moon phase tags

Use Cases

Log a planting when you put seeds in the ground — the progress bar will track days to harvest automatically. Log Brix readings throughout the season to watch quality trends. A year from now, you'll see "On this day last year..." reminders with full context.

Common Difficulties

Problem	Cause & Solution
No progress bars showing	Log a 'Planting' type entry with a crop name that matches the seed database
Charts not appearing	You need at least 2 entries of the same type (Brix or Weight) with values



PRO TIP

Export your journal once a year. Import on another device or merge entries from a backup. The single HTML file becomes your lifelong farm diary.

7 Moon Phase — Planting Guide

Tab: Moon Phase — Planting Guide | Shortcut: Ctrl+1

Calculates the moon phase for any date using a Julian Day Number algorithm. Shows the phase name, illumination percentage, cycle age, and traditional lunar planting guidance for four crop categories.

Inputs

Field	Description
Date	Any date — use the date picker, Today button, or ← Prev / Next → arrows

Outputs

Field	Description
Phase icon & name	■■■■■■■■■■ with descriptive name
Illumination	Percentage of lunar disc visible
Cycle age	Day X of the 29.53-day synodic cycle
Planting guidance	Four cards: Plant (✓), Also Good For (■), Avoid (✗)
30-day calendar	Table of phases and guidance for ±15 days around selected date

Use Cases

Check before planting day. Use the 30-day calendar to plan the week ahead. Pair with the Frost Date tool to align moon quarters with your growing season.

Common Difficulties

Problem	Cause & Solution
Phase seems off by a day	The algorithm is ±1 day accurate — sufficient for planting guidance
Southern hemisphere difference?	Moon phases are the same globally; only illumination orientation differs



PRO TIP

Lunar planting is traditional knowledge, not science. Use it as a scheduling framework — rhythm and planning are half the battle.

8 Frost Date Calculator

Tab: Frost Date Calculator | Shortcut: Ctrl+2

Calculates your growing season length and generates a planting schedule relative to your last spring frost and first autumn frost dates.

Inputs

Field	Description
Last spring frost	Average date of last freezing temperature in spring
First autumn frost	Average date of first freezing temperature in autumn

Outputs

Field	Description
Growing days/weeks	Total frost-free period
Last frost / First frost	Formatted dates for reference
Season status	Badge showing current status (in-season, days until, season ended)
Timeline bar	Visual cold/growing/cold horizontal bar for the year
Planting schedule	20-crop table with indoor start, sow/transplant, and days to harvest

Use Cases

Enter your local frost dates (check your extension service) to see exactly when to start each crop. The schedule accounts for cold-hardy vs. tender crops.

Common Difficulties

Problem	Cause & Solution
Autumn must be after spring error	Swap the dates — spring frost must precede autumn frost
Southern hemisphere	Your 'spring' frost is in ~October; 'autumn' frost in ~April



PRO TIP

Add a 2-week buffer after last frost for tender crops. Cold soil is often worse than cold air.

9 Seed Spacing Calculator

Tab: Seed Spacing Calculator | Shortcut: Ctrl+3

Calculates how many plants fit in your bed based on crop-specific spacing data. Shows a visual layout and recommends a 15% seed overage for germination failures.

Inputs

Field	Description
Crop	Select from 22 common crops with emoji icons
Row length	Numeric length of your planting row
Unit	Metres or Feet
Bed width	Width of the planting bed
Number of rows	How many rows to plant

Outputs

Field	Description
Plants total	Total plants across all rows
Per row	Plants in a single row
Seeds (+15%)	Recommended seed purchase with germination buffer
Plant spacing	Distance between plants in a row
Row spacing	Distance between rows
Rows	Actual rows that fit in the bed width
Visual diagram	Emoji plant icons with spacing gaps
Reference table	22 crops with spacing, depth, and days to harvest

Use Cases

Plan your seed order. Enter your bed dimensions and the calculator tells you exactly how many seeds to buy. The visual diagram confirms the layout.

Common Difficulties

Problem	Cause & Solution
Fewer rows than expected	Bed width limits rows — the tool calculates the maximum that fits
Visual shows '...+N'	More than 20 plants per row; the display truncates for readability

**PRO TIP**

Buy 15–20% more seed than you need. Germination rates are never 100%.

10 Fertilizer Ratio Tool

Tab: Fertilizer Ratio Tool | Shortcut: Ctrl+4

Converts NPK percentage labels on fertilizer bags into actual nutrient amounts for your coverage area. Includes 12 common presets.

Inputs

Field	Description
N / P / K (%)	The three numbers on the fertilizer bag label
Area to cover	Numeric area value
Area unit	sq ft, sq m, acres, or hectares
Target N rate	Desired nitrogen application rate
Rate unit	lb/1,000 sq ft or kg/100 sq m

Outputs

Field	Description
Product needed	Total weight of fertilizer to apply
Actual N / P / K	Pounds or kilograms of each nutrient
Ratio	Simplified ratio (e.g. 1-1-1 for 10-10-10)
Filler	Percentage of inert material in the bag
NPK visual bar	Colour-coded proportion chart (green/gold/purple)
Presets table	12 common fertilizers with one-click apply

Use Cases

Know exactly how much product to buy and apply. Use the presets to quickly compare different fertilizers for the same area.

Common Difficulties

Problem	Cause & Solution
Product needed seems very high	Check the area unit — sq ft vs acres makes a huge difference
Ratio shows 0-0-0	All NPK percentages are set to zero

**PRO TIP**

A soil test is always the best starting point. Fertilizing without testing is like taking medicine without a diagnosis.

11 Livestock Weight Estimator

Tab: Livestock Weight Estimator | Shortcut: Ctrl+5

Estimates live weight using the tape-weight method ($\text{heart girth}^2 \times \text{body length} \div \text{constant}$). Supports beef cattle, dairy cattle, pigs, sheep, goats, and horses.

Inputs

Field	Description
Animal type	Select from 6 livestock types
Measurement unit	Inches or Centimetres
Heart girth	Circumference around the body just behind front legs
Body length	Shoulder point to pin bone (pigs: snout to tail base)

Outputs

Field	Description
Live weight	Estimated weight in both lb and kg
Dressed weight	Carcass weight at typical dressing percentage
Daily feed	Recommended 2–3% of body weight
Estimation notes	Full formula, accuracy range, and tips
Reference table	Typical weight ranges and formulas for all 6 animal types

Use Cases

Weigh livestock without a scale. Useful for feed calculations, medication dosing, and market planning.

Common Difficulties

Problem	Cause & Solution
Weight seems wrong	Double-check girth measurement — it's the most error-prone. Measure at the same time daily, before feeding
Dressed weight missing	Horses do not show dressed weight (not applicable)



PRO TIP

Measure at the same time daily, before feeding. Gut fill can add 50+ lbs to a reading.

12 Brix Converter

Tab: **Brix Converter** | Shortcut: **Ctrl+6**

Converts refractometer Brix readings to specific gravity, sugar content, and potential alcohol. Rates crop quality against published benchmarks.

Inputs

Field	Description
Brix reading (°Bx)	Value from the refractometer (0–85 range)
Sample type	Fruit/Vegetable, Wine Grape, Honey, Maple Sap, or Beer Wort

Outputs

Field	Description
Brix reading	Confirmed reading in °Bx
Specific gravity	Calculated SG value
Sugar content	Grams per litre
Quality rating	Badge: Poor, Average, Good, or Excellent
Potential alcohol	Shown for grape and beer samples
Sap-to-syrup ratio	Shown for maple sap samples
Quality meter	Colour gradient needle gauge
Reference table	20 crops with Poor/Average/Good/Excellent Brix ranges

Use Cases

Track crop quality across the season. Rising Brix readings indicate improving soil health and nutrient density. Compare your numbers against the reference table.

Common Difficulties

Problem	Cause & Solution
Quality says 'Poor' for honey	Honey Brix is naturally high (74–85). A reading of 60 is genuinely low for honey
Potential alcohol not showing	Only displayed for Wine Grape and Beer Wort sample types



PRO TIP

Test Brix on warm sunny afternoons. Rising Brix across a season is the best sign your soil management is working.

13 Keyboard Shortcuts

All shortcuts use Ctrl (or **⌘** on Mac). Available from any tab.

Ctrl + 1	Moon Phase
Ctrl + 2	Frost Dates
Ctrl + 3	Seed Spacing
Ctrl + 4	Fertilizer Ratio
Ctrl + 5	Livestock Weight
Ctrl + 6	Brix Converter
Ctrl + S	Export full state file
Ctrl + H	Open Help
Esc	Close any open modal

14 Troubleshooting

JavaScript is disabled

The Knife requires JavaScript. Enable it in your browser settings. All major browsers have it enabled by default.

All my data disappeared

You likely cleared your browser data or switched browsers. Each browser has its own localStorage. Always export your state file before clearing browser data.

Date pickers not working

Some older mobile browsers have limited date input support. Type the date manually in YYYY-MM-DD format.

Calculations seem wrong

Double-check your input units (feet vs metres, inches vs cm). The Knife does not auto-convert between input units.

Tab bar scrolls on mobile

Normal behaviour — swipe left/right to see all tabs. The three new tabs (My Farm, My Season, Journal) appear before the calculator tabs.

Import says 'Wrong knife'

The state file's "knife" field must be "farmer". Files from other Offline.Ltd knives are rejected.

Season Planner says 'Set up profile first'

Go to the ■ My Farm tab and enter at least a USDA zone and select some crops.

Journal entries not merging on import

Entries with the same ID are deduplicated. Only genuinely new entries are added during import.

15 Accuracy & Limitations

Every tool in the Knife is an estimate. The table below summarises typical accuracy and what to keep in mind.

Tool	Accuracy	Notes
Moon Phase	±1 day	Julian Day algorithm; sufficient for traditional planting guidance
Frost Dates	±2 weeks	Zone-based estimates; check local extension services for exact dates
Seed Spacing	Exact (within model)	Based on standard spacing data; adjust for your variety
Fertilizer Ratio	Exact (within model)	Assumes bag label is accurate; soil test recommended
Livestock Weight	±3–8%	±3–5% cattle/horses, ±5–8% smaller livestock; measure consistently
Brix Converter	±0.5°Bx	Depends on refractometer quality and temperature compensation
Season Planner	±2 weeks	Derived from zone frost estimates; adjust dates as needed
Farm Profile	N/A	User-entered data; accuracy depends on input quality



CAUTION

The Farmer's Knife is a planning and estimation tool. It is not a substitute for soil tests, veterinary advice, agricultural extension services, or professional agronomic guidance. Lunar planting guidance is traditional knowledge, not peer-reviewed science.

16 Glossary

Key terms used across the Knife's tools.

Brix (°Bx)	A unit of sugar content. 1°Bx = 1 gram sucrose per 100 grams of solution. Measured with a refractometer.
Companion planting	Growing certain plants together for mutual benefit — pest deterrence, pollination, nutrient sharing.
Direct sow	Planting seeds directly into the ground (outdoors), as opposed to starting indoors and transplanting.
Dressing percentage	The proportion of live weight that becomes usable carcass (dressed weight). Varies by species.
Extension service	Government agricultural advisory offices (USDA in the US) providing local growing guidance and soil testing.
First frost (autumn)	The first date in autumn when temperatures drop to 0°C / 32°F, ending the growing season for tender crops.
Growing season	The number of frost-free days between last spring frost and first autumn frost.
Heart girth	Circumference measured around a livestock animal's body just behind the front legs and over the withers.
Julian Day Number	A continuous count of days used in astronomy and agriculture to calculate dates and cycles (including moon phases).
Last frost (spring)	The last date in spring when temperatures drop to 0°C / 32°F, signalling when it is safe to plant tender crops.
localStorage	A browser feature that stores data on your device. The Knife saves all state here automatically.
Lunar quarter	One of four phases: New→1st Quarter (leafy), 1st→Full (fruiting), Full→Last Quarter (root), Last Quarter→New (rest).
NPK	Nitrogen (N), Phosphorus (P), Potassium (K) — the three primary plant nutrients. Listed as percentages on fertilizer bags.
Refractometer	An optical instrument that measures sugar content in a liquid by bending light through a sample.
Seed overage	Extra seeds purchased to account for germination failure. The Knife uses a 15% buffer.

Specific gravity (SG)	The ratio of a liquid's density to water. Related to sugar content; used in brewing and winemaking.
Start indoors	Planting seeds in containers inside (under lights or on a windowsill) before transplanting outside after frost.
State file	A JSON file exported from the Knife containing all tool inputs. Can be imported on any browser to restore your work.
Synodic cycle	The 29.53-day period of the moon's phases, from New Moon to New Moon.
Tape-weight method	Estimating livestock weight using body measurements (girth and length) instead of a scale.
Transplant	Moving a seedling from its indoor container to its permanent outdoor growing position.
USDA zone	A plant hardiness classification based on average annual minimum winter temperature. Ranges from 1 (coldest) to 13 (warmest).

THE FARMER'S KNIFE

Knife 23 of 50 — Offline.Ltd

Good soil.

Version 2.0 · Estimates only — not a substitute for soil tests, vet advice, or extension guidance.