

PQNK (Pristine Organic Farming) – Wheat Cultivation Guide

1. Seed Preparation

- **Soaking before sowing (if manual sowing):**
 - Soak seeds in water to hydrate and kick-start germination.
 - Gives the seed a head start and aligns with natural processes.
- **If sowing with planter:**
 - **Do not soak seeds.**
 - Instead, ensure soil has enough moisture:
 - Pick soil from seed depth and press into a ball.
 - If it holds together → moisture is enough.
 - If it crumbles → irrigate before or after sowing.
- **Applicable varieties:**

Works for all desi/traditional wheat types — Sharabdi, Tukadi, Bansi, Sonamoti, Khapli, etc.
- **Seed selection method:**
 - Choose from healthiest plants.
 - Pick plump, uniform seeds.
 - Buoyancy test: keep only the seeds that sink.
 - Avoid diseased or weak plants.
- **Using non-PQNK seeds:**
 - Will still improve under PQNK system.
 - Full potential comes after saving and reusing PQNK-grown seeds for 2–3 seasons (develops locally adapted landrace).

2. Sowing & Moisture Management

- If soil already has sufficient moisture → **do not irrigate after sowing.**
- Respect soil's natural signals; unnecessary irrigation harms soil microbes and structure.

3. Bed Layout & Seed Density (42-inch Bed System)

Wheat:

- Seed requirement: 8–10 kg per acre (much less than conventional).
- Spacing: 6–8 inches between seeds.
- Plant two seeds per hill.
- 5 rows of wheat per 42-inch bed.

Intercrops (Green peas & Radish):

- Green peas: 1 row at bed edge.
- Radish: 1 row at bed edge.
- Total rows per bed: 5 (wheat) + 1 (peas) + 1 (radish) = **7 rows**.
- Alternative: 5 (wheat) + 2 (peas) OR 2 (radish) = **7 rows**.
- By Feb–Mar, radish harvested and peas near maturity.

Corn (for shading in March–April):

- Sowing time: last week of Feb or first week of Mar.
 - Purpose: tall by April → shades wheat during grain filling.
 - Density: 1 row of corn per 4–5 rows of wheat.
 - Planting: on furrows (bed edge).
 - Spacing: 1.5–2 ft between corn plants.
 - Orientation: North–South for best shading.
 - Method: manual sowing (so wheat & intercrop system remains undisturbed).
 - Note: Corn is an **additional shading crop**, not a replacement for wheat rows.
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4. Mulching

- Always keep beds covered.
 - **If rice straw or other mulch available → use from Day 1.**
 - If not available early, use **Jantar mulch** until rice straw comes (Nov–Dec).
 - Benefits: regulates temperature, retains moisture, supports soil microbes.
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5. Pruning (Leaf Topping)

Timing:

- First pruning: 25–30 days after sowing, when 6–8 inches tall.
- Must prune **before nodes form** (nodes won't regrow if cut).

Tillering after pruning:

- After 1st pruning: 5–8 tillers.
- After 2nd pruning: 15–25 tillers.
- After 3rd pruning: 40–70 tillers.

Frequency:

- 2–3 times total.
- Gap of 20–25 days between prunings.

Cut-off:

- Complete by end of December (before reproductive phase starts).
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6. Sunlight & Heat Management

October–November (early stage):

- Radish + pea canopy shades soil.
- Mulch keeps roots cool.

March–April (grain filling stage):

- Corn canopy reduces harsh sunlight.
 - Prevents heat stress → ensures plump, heavy grains.
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7. Irrigation & Water Management

- PQNK reduces irrigation need by **50–70%**.
 - Approx. 2–4 irrigations per season (through furrows).
 - **Critical stages:**
 1. Crown root initiation
 2. Tillering
 3. Late jointing
 4. Flowering
 5. Milky/dough stage
 - **Principle:** Irrigate only when soil 2–3 inches deep feels dry.
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8. Mimicking Low-Temperature Zone

PQNK creates a cool, stress-free microclimate for wheat:

1. Mulching → root cooling.
2. Intercrop canopy → air cooling.
3. Pruning → stronger plants, delayed stress stages.
4. Healthy soil → greater stress tolerance.

9. Harvesting

- Harvest when:
 - Stalks are golden yellow.
 - Stem just below earhead still slightly green.
 - Grains are hard at **physiological maturity**.

10. PQNK Wheat Yield Projection

Baseline difference:

- Conventional wheat: 25,000–30,000 grains = 1 kg (light, shriveled).
- PQNK wheat: ~17,000 grains = 1 kg (dense, nutrient-rich).

Yield assumptions:

- Seed heads: $\geq 1,000,000$ per acre.
- Grains per head: 80.
- Grains per kg: 17,000.

Calculation:

- Total grains per acre = $1,000,000 \times 80 = \mathbf{80,000,000 \text{ grains}}$.
- Grain weight = $80,000,000 \div 17,000 \approx \mathbf{4,705 \text{ kg/acre}}$.
- Local measure: $4,705 \div 40 = \mathbf{117 \text{ mounds/acre}}$.

Summary

PQNK wheat cultivation ensures:

- Seeds: carefully selected & soaked (unless planter used).
- Spacing: 6–8 inches, low density for high tillering.
- Intercrops: peas + radish (cover), corn (shade).
- Pruning: 2–3 times by Dec for 40–70 tillers.
- Mulching & canopy: regulate heat and moisture.
- Irrigation: 50–70% less water than conventional.
- Yield: ~4,700 kg/acre (**117 mounds**) of **dense, premium-quality grain**.