

Key Figures: Sahel Potato Innovation Package

(Chieftain, AC Chaleur & Kennebec)

Productivity and Yield Performance

The three potato varieties demonstrate strong yield potential under Burkinabè production conditions, significantly outperforming traditional farmer yields and the commonly used Spunta variety.

- Chieftain: Average yield of 37.92 t/ha in multilocal trials (highest-performing variety).
- Kennebec: Average yield of 26.24 t/ha.
- AC Chaleur: Average yield of 24.06 t/ha.
- Benchmark comparison: All three varieties exceeded the average farmer yield (15–20 t/ha) and performed better than the local reference variety Spunta (22.30 t/ha).
- Production ambition: The technology aims to contribute to doubling national potato production within five years.

Post-Harvest Performance and Quality Characteristics

The varieties offer complementary advantages for different market segments, including fresh consumption, storage, and processing.

- Storage performance (AC Chaleur): Less than 25% storage loss after two months at 16°C, compared with 60–80% losses observed in other tested varieties.
- Dry matter content:
 - AC Chaleur: 16.72% – suitable for boiling and baking.
 - Kennebec: 16.08% – suitable for industrial processing, chips, and French fries.
 - Chieftain: 13.45% – suitable for fresh consumption.

- Growth cycle: All varieties have a short vegetative cycle of 90–105 days, reducing exposure to end-of-season water shortages and supporting off-season production.

Recommended Production Practices

The technology package includes optimized agronomic practices to maximize yield and quality:

- Seed requirement: 2–3 tonnes of seed potatoes/ha.
- Planting spacing:
 - Standard production: 25–30 cm within rows × 75–90 cm between rows.
 - Seed export production: 15 cm within rows.
- Planting depth: 8–10 cm.
- Fertilization:
 - Organic manure/compost: 10 t/ha.
 - NPK 14-23-14 fertilizer: 300 kg/ha.
- Water requirement: Approximately 25–40 mm/week.
- Soil requirements: Optimal soil pH between 5.0 and 6.5.

National Potato Sector Context

The technology responds to key challenges affecting potato production in Burkina Faso and the wider Sahel region.

- Improved seed adoption: Currently only around 20% among local farmers, highlighting the need for stronger certified seed systems.
- National production: Estimated at 3,000–4,000 tonnes/year, generating more than 1 billion FCFA in economic value.
- Seed dependency: Most potato seed is imported from Europe (mainly France and the Netherlands), creating an opportunity to develop local seed multiplication systems.

Variety Validation and Regulatory Status

The varieties have undergone Distinctness, Uniformity, and Stability (DUS) testing, confirming their uniqueness compared with the commonly used Spunta variety.

- Chieftain: 24 distinct morphological characteristics compared with Spunta.
- AC Chaleur: 21 distinct morphological characteristics compared with Spunta.
- Kennebec: 21 distinct morphological characteristics compared with Spunta.

These results support the registration and homologation of the varieties in national catalogues and their wider dissemination among farmers and value chain actors.