



Market Intelligence Digest

Groundnut | Burkina Faso

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Market Intelligence
Area of Work

The CGIAR Market Intelligence Area of Work aims to maximize the impact and return on investment of breeding programs by integrating market insights, behavioral intelligence, and strategic prioritization. It identifies high-impact opportunities, guides product development, and enhances product adoption and lifecycle management through decision-support tools.

ENGLISH VERSION

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A. Market Segments

	Harvested area (ha)	% of total harvested area
Total Area Covered by Seed Product Market Segment (Active only)	670,937	100
<u>Groundnut WAF MS00630</u>		
Groundnut Non-Hybrid WAF Dual purpose Red; Tan Sudan; Guinea Savannah; Sahelian Zone Rainfed Early	335,468	50
<u>Groundnut WAF MS00631</u>		
Groundnut Non-Hybrid WAF Dual purpose Red; Tan Northern Guinea Savanna; Sudan Rainfed Mid	134,187	20
<u>Groundnut WAF MS00632</u>		
Groundnut Non-Hybrid WAF Dual purpose Red; Tan Sahelian Zone Rainfed Extra-early	67,094	10
<u>Groundnut WAF MS00637</u>		
Groundnut Non-Hybrid WAF Dual purpose; Confectionery Red; Tan Sahelian Zone Rainfed Extra-early	67,094	10
<u>Groundnut WAF MS00629</u>		
Groundnut Non-Hybrid WAF Food; Confectionery Red; Tan Guinea Savannah; Sudan Rainfed Mid	33,547	5
<u>Groundnut WAF MS00638</u>		
Groundnut Non-Hybrid WAF Multipurpose; Fresh; Boiled Grain Red; Tan Guinea Savannah; Sudan Rainfed Extra-early	33,547	5
National Harvested Area (ha) (FAOSTAT)	670,938	
Difference between market-segmented area and national harvested area	1	0

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B. Market Segment Criteria

MS Criteria	Value	Harvested area (ha)	% of Total harvested area
Crop	Groundnut	670,937	100
Subregion	West Africa	670,937	100
Material Type	Non-Hybrid	670,937	100
Consumer Product Type	Dual purpose	536,749	80
	Confectionery; Dual purpose	67,094	10
	Confectionery; Food	33,547	5
	Boiled Grain; Fresh; Multipurpose	33,547	5
Color	Red; Tan	670,937	100
Production Environment	Guinea Savannah; Sahelian Zone; Sudan	335,468	50
	Sahelian Zone	134,188	20
	Northern Guinea Savanna; Sudan	134,187	20
	Guinea Savannah; Sudan	67,094	10
Production System	Rainfed	670,937	100
Maturity	Early	335,468	50
	Extra-early	167,735	25
	Mid	167,734	25

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C. Target Product Profiles and Breeding Pipelines

Seed Product Market Segment	Target Product Profile	Breeding Pipeline	Breeding Effort
<u>Groundnut WAF MS00630</u>	<u>Groundnut WAF CIMMYT TPP00338</u>	Groundnut CIMMYT BP00143	Category 1: Full
<u>Groundnut WAF MS00631</u>	<u>Groundnut WAF CIMMYT TPP00365</u>	Groundnut CIMMYT BP00144	Category 1: Full
<u>Groundnut WAF MS00632</u>	<u>Groundnut WAF CIMMYT TPP00370</u>	Groundnut CIMMYT BP00143	Category 4: Late Testing
<u>Groundnut WAF MS00637</u>	-	-	-
<u>Groundnut WAF MS00629</u>	-	-	-
<u>Groundnut WAF MS00638</u>	-	-	-

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D. Mapping Traits from TPPs and MI Evidence to Value Propositions

Value Proposition	Essential improved traits from 3 TPPs*	Key traits from MI Evidence
01 Farmer • Higher Productivity	Yield (3)	High seed yield
02 Farmer • Higher fodder yield or value	No essential traits to be improved	High haulm biomass
03 Farmer • Less Loss & Risk: CC relevant stress	No essential traits to be improved	Yield stability under low inputs
04 Farmer • Less Loss & Risk: Biotic stress	- Rosette disease resistance (3) - Late Leaf spot resistance (1) - Early Leaf spot resistance (1)	Resistance to foliar diseases
06 Farmer • Less Loss – Other	No essential traits to be improved	High emergence rate
07 Farmer • Greater fertilizer use efficiency	No essential traits to be improved	High Nutrient Use Efficiency (NUE)
08 Farmer • Less labour	No essential traits to be improved	Ease of pod harvest
09 Farmer • Appropriate maturity	No essential traits to be improved	Early maturing/Short cycle
10 Farmer/user • Longer storage life	No essential traits to be improved	Seed longevity in storage
11 User • Less labour	No essential traits to be improved	- Short cooking duration - High shelling ratio
12 User • Meeting end-user requirements	- Oil content (3) - Shelling Percentage (1) 100 seed weight (1)	- Large seed size - Red or pink seed coat color - High oil/lipid content - High kernel physical integrity - Uniform seed size
13 User • Better nutrition and/or health	No essential traits to be improved	- Low aflatoxin accumulation - High antioxidant content - Low tannin levels

* Values in parentheses () reflect the frequency of appearance of each essential improved trait across the active TPPs.

See **Section E** for reference

Note: "Essential: Maintain" and "Nice-to-Have" traits of TPPs are not included in the table

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D. Mapping Traits from TPPs and MI Evidence to Value Propositions

List of Value Propositions

- **01 Farmer • Higher Productivity:** More yield in a representative target environment.
- **02 Farmer • Higher fodder yield or value:** More fodder: yield and quality (like digestibility)
- **03 Farmer • Less Loss & Risk: CC relevant stress:** Avoided yield losses and more production stability in the face of climate change-relevant shocks and stresses such as drought, excess water (excessive rains, waterlogging, submergence, typhoons), heat, and salinity
- **04 Farmer • Less Loss & Risk: Biotic stress:** More production where and when this pest or disease occurs.
- **05 Farmer • Less Loss @ Location:** Crop production in less favorable environmental conditions, such as cold, acidity, alkalinity, shade, salinity, iron toxicity.
- **06 Farmer • Less Loss – Other:** Less loss in the field due to shattering or lodging.
- **07 Farmer • Greater fertilizer use efficiency:** Less need for fertilizer, more production at low levels of fertilizer, biological nitrification inhibition (BNI).
- **08 Farmer • Less labour:** Ability to mechanize. Less work and drudgery for weeding, harvesting and on-farm sorting.
- **09 Farmer • Appropriate maturity:** Better fit in the cropping system. Varieties that may induce early maturity or prolong the time it takes to harvest the crop.
- **10 Farmer/user • Longer storage life:** Longer storage with fewer losses. Other avoided losses due to processing?
- **11 User • Less labour:** Less labour for home processing (peeling/shelling ability (incl. shape), cooking time).
- **12 User • Meeting end-user requirements:** Product meets market intermediaries/end-use requirements in critical aspects. Physiological improvements that focus on standards/qualities of formal markets (e.g. color, size, texture, protein)
- **13 User • Better nutrition and/or health:** More nutritional and/or healthier product regarding protein, fiber, iron, zinc, beta-carotene and toxins. When combined with awareness raising and nutrition education, results in higher (induced) demand.
- **14 Multiplier – Easier to multiply:** Lower costs to multiplier; greater seed availability to farmers.
- **15 Other:** Undefined value to farmer, end user, or multiplier

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E. Synthesis of evidence highlighting key traits by thematic area

Overview

Groundnut serves as a critical biological and economic engine in Burkina Faso, yet its potential is hindered by a disjointed enabling environment where national policy has largely deprioritized the sector in favor of cereals. The vast majority of producers remain tethered to low-yielding local landraces due to the absence of a formal private seed sector and the liquidation of historical marketing boards, which has led to a widespread disconnection between farm-gate prices and market value. Widespread aflatoxin contamination presents a dominant threat to both public health and international export viability, while the intensifying erratic rainfall in the Sudano-Sahelian zone exacerbates the need for short-cycle, drought-resilient varieties. Systemic failures in certification and storage infrastructure disproportionately affect women and smallholders, who rely on informal seed networks and face significant labor drudgery, necessitating a demand-led breeding strategy that integrates technical processing efficiency with traits that solve on-farm labor and food security constraints.

1. Consumers

- **Low aflatoxin accumulation:** Reduces the dominant risk of hepatocellular carcinoma and child stunting by meeting strict safety thresholds for the Sahel.
- **Large seed size:** Addresses widespread consumer and farmer dissatisfaction with the low productivity and market value of common small-seeded varieties.
- **Red or pink seed coat color:** Ensures cultural acceptance and premium marketability through visual identification by traditional end-users.
- **Short cooking duration:** Minimizes the intense time and fuel resource requirements for meal preparation in energy-scarce rural households.
- **High antioxidant content:** Leverages bioactive secondary metabolites to enhance the therapeutic potential of groundnuts in preventing metabolic diseases.

2. Processors

- **High oil/lipid content:** Directly drives the profit margins for the large segment of processors engaged in oil and soap extraction.
- **High kernel physical integrity:** Minimizes the breakage of kernels during mechanical shelling to ensure a high volume of whole grain suitable for roasting.
- **Low tannin levels:** Prevents the undesirable bitter taste in traditional pastes and improves overall protein digestibility for human consumption.
- **Uniform seed size:** Enhances the efficiency of mechanical sorting and industrial processing equipment used by small and medium enterprises.

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E. Synthesis of evidence highlighting key traits by thematic area

3. Producers

- **High seed yield:** Addresses the primary motivation for varietal adoption by maximizing the total weight of saleable seeds per hectare
- **Resistance to foliar diseases:** Prevents significant yield collapses caused by the pervasive impact of leaf spot and rosette across production zones.
- **Early maturing/Short cycle:** Enables the crop to complete its reproductive cycle within increasingly shortened and unpredictable rainy seasons.
- **High emergence rate:** Ensures high initial stand establishment and plant population density even under erratic early rains
- **High Nutrient Use Efficiency (NUE):** Maximizes output in low-input systems where farmers have limited access to inorganic fertilizers.

4. Gender & Social Inclusion

- **High shelling ratio:** Specifically targets the reduction of labor drudgery for women who are primarily responsible for manual de-husking.
- **Ease of pod harvest:** Reduces the severe physical effort required for the manual uprooting of underground pods by female and aging farmers.
- **Seed longevity in storage:** Protects the viability of saved seeds for women who rely on informal exchange and home-storage between seasons.
- **High haulm biomass:** Provides essential protein-rich fodder for small ruminants, which are often the primary livestock assets managed by women
- **Yield stability under low inputs:** Ensures food security for female producers who are frequently relegated to marginal fields with poor soil fertility.

5. Enabling Environment

- **Private Sector Entry:** Incentivizes the establishment of formal seed companies to replace the current reliance on poor-quality home-saved seeds.
- **Market Price Coordination:** Re-establishes the connection between farm-gate prices and wholesale value to encourage producer investment in improved inputs.
- **Community Seed Banks (CSBs):** Decentralizes seed certification to validate and preserve the genetic purity of landraces within informal networks.
- **Rural Aggregation Storage:** Mitigates post-harvest losses and prevents distress selling by providing modern infrastructure to resist storage pests.
- **Morphological Distinctness:** Incorporates unique visual markers to help farmers identify and maintain varietal identity in a broken labeling system.

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E. Synthesis of evidence highlighting key traits by thematic area

References

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Annex 1. Insights from Market Intelligence Publications

No data available

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Annex 2: Requests for MI Evidence from PDT Meetings

MI Researchable Questions	Value Chain	Regional Crop Network	CGIAR coordinating Center	Network Priority
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No data available

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Annex 3: Definitions of commonly-used terms

Terms	Description
Market Segment or Seed Product Market Segment (SPMS)	A group of farmers with common product needs, driven by consumer and processor requirements (what) combined with a set of farmer requirements based on where and how the product is grown.
Market Segment Criteria	The eight criteria used to identify and define a market segment. Not all market segments will require all criteria to be identified e.g. maturity is not relevant for perennial crops. Non-applicable terms are captured as NA. To begin with, Market Segments were captured at the subregional level. • Crop: A crop in the CGIAR crop breeding portfolio. What entails a crop (as compared to a germplasm type) follows the convention what FAO defines to be a crop, so interoperability with FAO data sets can be ensured. Germplasm Type are used for subspecies (e.g. Plantain and Banana, Durum and Bread (wheat) or other types of consistent subgroupings of crops between which crosses are rarely made (winter wheat, spring wheat). It is the crop's assessment whether and how they want to use this attribute. • Subregion: Subregion(s) and countries on where the crop is grown (MS subregions derived from the seven regions recognized by CGIAR). • Material Type: Hybrid or non-Hybrid • Consumer Product Type: The processor and consumer requirements for a product, how they choose to process the product. • Color: Color of the grain or flesh of the product required by a market segment. • Production Environment (Agroecological Zone): Geographical areas exhibiting similar climatic conditions that determine their ability to support agriculture, typically defined by their geography, humidity and elevation. • Production System: How the crop is grown • Maturity: Maturity of the crop required where the crop is grown.

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Annex 3: Definitions of commonly-used terms

Terms	Description
Target Product Profiles (TPPs)	Defined to understand what essential (and nice-to-have) traits are required in a new product to meet or exceed the needs of farmers, processors and consumers in one particular crop market segment.
Breeding Effort	The extent of effort put on closely related Target Product Profiles (TPPs) that derive from one Breeding Pipeline = crossing block • Category 1: Full: The TPP which is the main target of the breeding effort (= for which most resources are available) is called Category 1 TPP. The Category 1 TPP Essential Trait requirements define the crossing block, and the extraction of candidates for early stage testing, late stage testing and on-farm verification. A Breeding Pipeline can only have one Category 1 TPP. The other TPPs that derive from the same population improvement effort, are assigned Category 2, 3 or 4. • Category 2: Early and Late Testing: This category has a separate variety selection effort that selects different candidates from early stage testing, before proceeding to late stage testing and on-farm verification. This is typically the case when CGIAR breeding programs send the same set of lines, clones or hybrids for early testing to partners and these partners select (and/or extract in the case of segregating lines) different TPPs out of the materials received.. • Category 3: Backcrossing: This category differs from Category 1 by one or two simply inherited Essential Improve Trait(s) that can be achieved through backcrossing. • Category 4: Late Testing: This category has a separate variety selection effort that selects different candidates from late-stage testing, before proceeding to on-farm verification. • Category 5: None: This category is for Market Segments with no TPP defined or no TPP linked to a CGIAR Breeding Pipeline
Breeding Pipeline	The sum of the breeding efforts (product design, crossing and screening, early-stage testing, late-stage testing and on farm verification) focused on a market segment or on a group of similar market segments with very similar target product profiles ending with the identification of distinct products for each market segment the pipeline is focused on.

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Annex 3: Definitions of commonly-used terms

Terms	Description
Essential Traits	Traits must be at or above the threshold value in all new products for a market segment in order to meet/exceed farmer, processor, and consumer requirements.
Essential Improve Traits	Traits are deliberately being improved in the breeding scheme for a market segment.
Essential Maintain Traits	Traits are being maintained at their current level in the breeding scheme for a market segment.
Nice-to-Have Traits	Traits do not need to be in all new products for a market segment to meet/exceed farmer, processor, and consumer requirements.

Value Proposition

Value Proposition is both a strategic and a marketing concept. Value propositions identify the benefits that products (or services) will deliver to users. In the case of B4T, value propositions cluster Target Product Profile Traits with similar potential benefits. They help in (i) conceptualizing benefit projections, (ii) discussions of relative priorities of TPPs with users and stakeholders, and (iii) feasibility assessments of TPPs - the more value propositions are being pursued through the same Target Product Profile, the less progress will be made for every individual value proposition and the less feasible is meaningful impact. These groupings therefore, provide a practical handle on the substantial set of traits considered in the TPPs.

References:

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- CGIAR Breeding Portal User Manual version 5.0 [unpublished document]

About this Market Intelligence Digest

The **Market Intelligence Digest** provides concise, evidence-based guidance to support **Product Design Team (PDT) discussions** in line with CGIAR **Product Design Standards**. It synthesizes market intelligence insights to inform market segmentation, trait prioritization, and advancement decisions within existing breeding pipelines. By complementing technical breeding data, the Market Intelligence Digest helps PDTs clarify the relevance of market segments, demand signals, and adoption considerations for product design decisions.

This series is a collaborative effort of CGIAR centers and partners working on CGIAR Market Intelligence. The views and opinions expressed in this publication are those of the authors and are not necessarily representative of or endorsed by CGIAR.

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