TROPICAL LEGUMES II

Bulletin of Tropical Legumes

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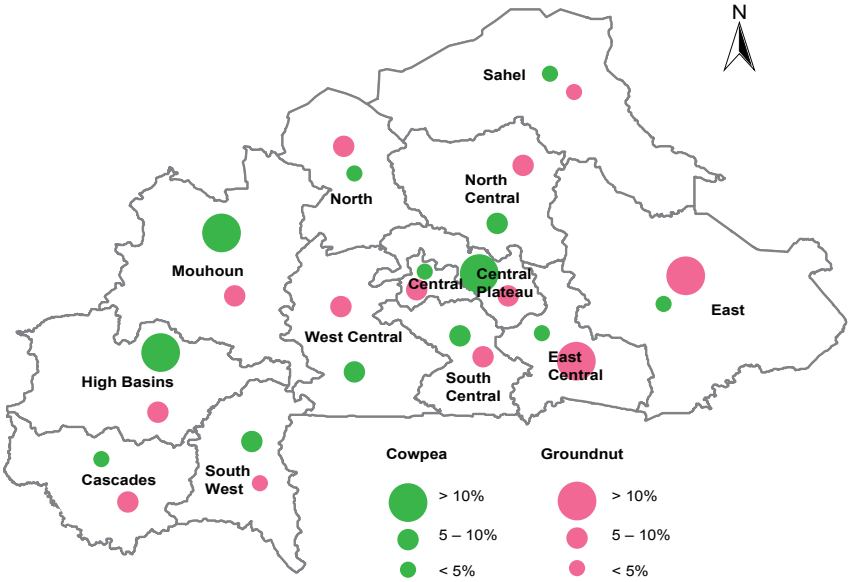
About the Bulletin

The Bulletin of Tropical Legumes is a monthly publication of the Tropical Legumes II (TL II) project, funded by the Bill & Melinda Gates Foundation, and jointly implemented by the International Crops Research Institute in the Semi-Arid Tropics (ICRISAT), the International Center for Tropical Agriculture (CIAT) and the International Institute of Tropical Agriculture (IITA) in close collaboration with partners in the National Agricultural Research Systems of target countries in Sub-Saharan Africa and South Asia. TL II aims to improve the livelihoods of smallholder farmers in drought-prone areas of the two regions through enhanced grain legumes productivity and production.



Grain Legumes of Burkina Faso

Grain legumes are an important component of Burkinabe agricultural economy. They occupy about 1.2 million ha (*ca.*20%) of the country's estimated 6 million ha of land cultivated each year. The major grain legumes of Burkina Faso are cowpea, groundnut, Bambara bean, soybean and others (Table 1). Cowpea and groundnut are the focus of research and development in the second phase (2011 – 2014) of the Tropical Legumes II project in Burkina Faso.

Cowpea

Cowpea is the most important grain legume for Burkina Faso. It occupies more than 700,000 ha or about 12% of the total cultivated area of the country. The average yield is about 500 kg/ha and annual production is estimated at more than 350,000 MT (Table 1). Significant progress has been made in cowpea production, especially after the mid 1990s; however, the annual rates of growth (ROGs) were heavily affected by fluctuations in the area and production (Figure 1). For example, the

Table 1: Status of major grain legumes of Burkina Faso

Crop	Area			Yield		Production	
	Ha	% of total area	ROG (%)	Kg/Ha	ROG (%)	MT	ROG (%)
Cowpea	701,362	11.9	-1.71	499	0.98	352,467	-0.75
Groundnut	412,423	7.0	2.53	830	-1.85	339,027	0.64
Bambara bean	45,812	0.8	4.11	1,162	1.26	53,256	5.42
Other pulses	18,155	0.3	-8.63	1,055	5.93	19,164	-3.21
Soybean	13,106	0.2	22.54	1,813	3.58	22,430	26.94
Total	**1,190,858**	**20.2**	**-0.21**	**1,072**	**2.34**	**786,343**	**0.44**

Area, yield and production are 2008-10 averages; ROGs are for 2001-10 (source: computed from FAOSTAT, 2012)

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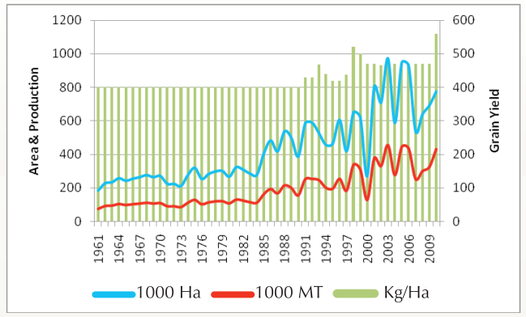

Figure 1: Cowpea trends in Burkina Faso (source: calculated from FAOSTAT, 2012)

ROGs for area and production declined by 1.71% and 0.75%, respectively, during the period from 2001 to 2010. Meanwhile, the ROG for yield grew by 0.98% during the same period (Table 1). The declines in the area and production are usually associated with terminal drought.

Cowpea is grown across all agro-ecological zones (Sahelian , Sudano-Sahelian and Sudan savannah) and all 13 administrative regions. The regions of High Basins (accounting for >21% of the total production) and Mouhoun (ca. 21%) are the largest producers.

Currently there is vigorous research and development initiative being undertaken by the Burkina Faso National Agricultural Research System, INERA (Institute of Environment and Agricultural Research), in collaboration with IITA (the International Institute of Tropical Agriculture). A total of 21 varieties have been released between 1982 and 2011. Those released in recent years include IT86F-2246 (2005); Melakh and IT98K-205-8 (2006); and KVx 442-3-25 and KVx 775-33-2 (2011).

INERA has good experience of seed production and maintenance. For example, a total of 6,138 kg of Breeder Seed of 12 varieties was produced in 2010. The varieties KVx 396-4-5-2-D, KVx 745-11P, KVx 61-1, and KVx 442-3-25 topped the list, accounting for a combined total of more than 68%. In a similar fashion, some 925 MT of Certified Seed was produced in 2009. Considering a seeding rate of 25 kg/ha, this amount is enough to cover about 37,000 ha of land, which is a little over 5% of the total area of the country.

It has been projected that cowpea production would continue to outstrip national demand in Burkina Faso. Area planted to this crop is expected to grow at 2.86% per annum, yield by 0.44%, and the resulting production by 3.31% (Table 2). The area planted to cowpea is projected to be more than 1 million ha by 2019. The national demand would also grow at the rate of 2.70% per annum. This means that the country would continue to be a net-exporter of cowpea through 2020.

It is apparent that Burkina Faso exports significant amounts of cowpea to neighboring countries but organized data on trade are wanting. The latest issue of FAOSTAT (March 2012) does not provide data on cowpea trade.

Table 2: Cowpea production and demand projections in Burkina Faso

Year	1000 Ha	Kg/Ha	1000 MT(s)*	1000 MT(d)*	Balance.*
2010	787	471	371	36	335
2011	809	473	383	27	356
2012	833	475	396	28	368
2013	856	478	409	29	379
2014	881	480	422	31	392
2015	906	482	436	32	404
2016	932	484	451	33	418
2017	959	486	466	35	431
2018	986	488	481	36	445
2019	1,014	490	497	38	459
2020	1,043	492	514	39	474
ROG (%)	**2.86**	**0.44**	**3.31**	**2.70**	**3.38**

**MT(s) and MT(d) refer to production and demand, respectively; balance [in 1000 MT] refers to the difference between production and demand (source: Arega Alene, pers. com.)*

Groundnut

Groundnut is grown on more than 410,000 ha (or about 7% of the total cultivated area) of land in Burkina Faso (Table 1). The area grew at 2.53% whereas the yield declined at 1.85%, with production growing at 0.64% per annum between 2001 and 2010. The area, productivity and production showed heavy fluctuations in the mid 2000s (Figure 2).

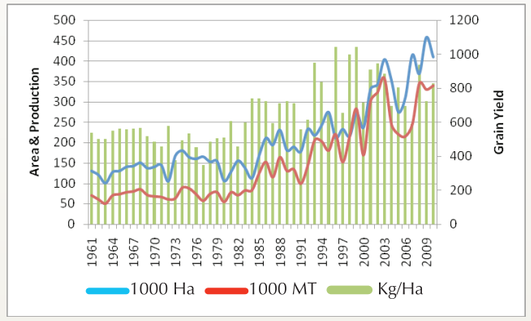

Figure 2: Groundnut trends in Burkina Faso (source: calculated from FAOSTAT, 2012)

Like cowpea, groundnut in Burkina Faso is grown across the 13 administrative regions and three agro-ecological zones. The highest concentration is found in Eastern Region (accounting for about 18% of the total production) and East-Central Region (*ca.* 17%).

Groundnut research and development has not enjoyed a similar level of attention to cowpea. A total of 13 groundnut varieties have been released since 1958. However, no varieties have been released since 1994. Examples of varieties released in the 1980s and 1990s are QH 243C [1984], E (104) [1988], SH 470P [1990], SH 67A [1991], and Fleur 11 [1994]. Varieties such as Te 3 (released in 1958) and CN 94C (1960) are still in use.

Projections suggest that the area planted to groundnut in Burkina Faso would grow at the rate of 1.36% - from nearly 330,000 ha in 2010 to about 380,000 ha by 2020. The yield would grow at the rate of about 0.75% (Table 3). It has also been projected that the demand would outstrip production by 2019. Burkina Faso would have a deficit of nearly 5,000 MT by 2020.

Next steps

Both crops need to gain from the experiences of neighboring countries that were included in Phase 1 of TL II (Mali, Niger, and Nigeria). The emphases would be on capacity building and seed multiplication. The priority for cowpea would be to intensify seed production and scaling up available technologies. The groundnut team needs to put emphasis on releasing modern varieties.

We observed significant disparities between the national and FAO data, especially as regards cowpea. There is compelling need to reconcile the data from both sources. Furthermore, data on cowpea export are lacking even though it is obvious that significant amount of the grain is sold to neighboring countries. ■

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Table 3: Groundnut production and demand projections in Burkina Faso

Year	1000 Ha	Kg/Ha	1000 MT(s)*	1000 MT(d)*	Balance*
2010	329	952	314	307	6.27
2011	334	960	321	314	6.93
2012	339	968	329	321	7.29
2013	344	976	336	329	7.45
2014	350	984	344	336	7.37
2015	355	991	352	345	6.99
2016	359	998	359	353	5.42
2017	364	1006	366	362	3.48
2018	368	1012	373	371	1.14
2019	372	1019	380	381	-1.67
2020	377	1026	387	392	-4.99
ROG (%)	**1.36**	**0.75**	**2.11**	**2.45**	**NA**

**MT(s) and MT(d) refer to production and demand, respectively; balance [in 1000 MT] refers to the difference between production and demand (source: IFPRI/IMPACT Model)*

News and Events

Regional meeting 2012 held for WCA

The 2012 Regional Meeting for Western and Central Africa was held in Niamey, Republic of Niger, on 12-14 March. The meeting was opened by the Minister of Agriculture. Participants included national scientists from Burkina Faso, Ghana, Mali, Niger, Nigeria, and Senegal; a representative of the Bill and Melinda Gates Foundation; partners representing farmers' organizations; seed companies; NGOs; representatives of CIAT, ICRISAT and IITA; research scientists of the three centers; and coordinators of the TL I and TL II projects.

This meeting took a more strategic approach, based on the lessons learned and knowledge gained in Phase 1. Particular emphasis was given to seed production, improved management practices (including moisture conservation) and issues relating to policy engagement. Work plans were prepared on the basis of priorities for each crop in each country. All of the country presentations were made by the national scientists of respective countries.

A training workshop on the Forensic Project of TL I (implemented by the Generation Challenge Program) was also held on 15-16 March, immediately following the regional workshop. Participating in this workshop were breeders from Niger and Nigeria (4 each); Burkina Faso, Ghana and Mali (2 each); and Senegal and ICRISAT-Mali (1 each).

Preparations for meetings of the remaining two regions are under way, as presented below. All meetings will follow a similar format to the one in WCA.

Region	Date	Venue	Host institution	Paticipating NARS
ESA	11-14 Apr	Nampula, Mozambique	IIAM	Ethiopia, Kenya, Malawi, Mozambique, Tanzania, Uganda, Zimbabwe
ESA	15-16 Apr	Nampula, Mozambique	IIAM	Ethiopia, Kenya, Malawi, Mozambique, Tanzania, Uganda, Zimbabwe
SA	14-16 May	Bhabuneswar, India	OUAT	Bangladesh, India (Bihar, Orissa, Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu)

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