West Africa Seed and Planting Material

The Newsletter of the West Africa Seed Network (WASNET)

Secretariat: PO Box 9698, KIA Accra, Ghana

No. 16, January 2006 ISSN 1595–2312

This is the sixteenth issue of 'West Africa Seed and Planting Material', the newsletter of the West Africa Seed and Planting Material Network (WASNET). WASNET addresses the needs and problems in the seed and planting material sectors in West African countries and brings together private and public seed actors from West African countries in a structure, which will encourage them to work together to strengthen local, national and regional seed industry development.

The WASNET newsletter is not only a tool through which the latest developments of the seed and planting materials sectors are communicated to seed and planting material staff in West Africa and beyond. It also aims at informing readers of what is going on in the seed and planting material sector in other networks or seed related associations in the world. Even more, the newsletter can be seen as a forum of discussion whereby readers and contributors are allowed and encouraged to pose and answer questions.

Do not forget to send your comments on articles and contributions for the next issue of the newsletter

The last issues of the Newsletter dealt with WASNET news mainly, the minutes of the sixth Meeting of the Steering Committee of WASNET in preparation toward the third General Assembly to be held in Accra from 21 to 24 February 2006, the creation of the Seed Producers Association of Ghana (SEEDPAG); the creation of the Federation of African Agri-input dealers Associations (FACIA). Emphasis in the current issue is shifted to present the leading role been played by ECOWAS in the process of the harmonization of seed rules and regulations in West Africa, the first workshop toward the creation of the national seed association in Bénin, the seed actors and the varieties grown in Togo, the release of new crops varieties in Ghana and the world situation of Genetically Modified Organisms in 2004. It is also worthwhile to share with readers seed events to come.

Contents

WASNET News

Towards a national association for seed producers and distributors in Bénin

Norbert G. Maroya

Background

In Bénin, the seed sector is regulated by two decrees. The first decree, N° 87-302 of 28 September 1987, established the National Seed Committee and set out its composition as well as its mode of operation. The second decree, N°·89-369 of 10 October 1987, on the control of seeds and planting material, established the Seed Quality Promotion and Packaging Department (DPQC), charged with the control of seed and planting material. A bill is now before parliament for the regulation of the production and marketing of seed and planting material in the Republic of Bénin. The Project BEN/84/010 titled 'Seed Project formulation' hosted by the Directorate of Agriculture and implemented by FAO under UNDP funding, has been the hallmark of the seed sector in Bénin. Under the project, a seed plan was drawn up and set in motion in 1995. Despite the investments made under the project and efforts deployed by the Government to establish highly equipped seed farms in all the former CARDERs (Regional Action Centers for Rural Development), the use of improved seeds was still low.

As part of reforms carried out under the Structural Adjustment Program, the production and distribution of improved seeds were opened to private stakeholders through the National Seed Plan as from the cropping season 1994–1995.

The responsibility for the production, distribution, and marketing of certified seeds was handed over to producer organizations and private seed distributors in line with the state policy on withdrawal of funding. Private stakeholders of the seed sector were neither prepared, nor well organized to play a lead role, hence the sector fell into a state of lethargy. Only the cotton sector was smooth running.

In the wake of the process of decentralization of 2003, steps were initiated (2003–2004) with a view to restructuring the seed sector, starting with the creation of seed banks in each of the 77 communes of the country. Unfortunately, the new structure was not grounded on the private sector which, according to the legislation in force, should be at the forefront of the production and distribution of certified seeds.

In order for private professionals of the seed sector to enjoy full autonomy, the IFDC/MIR Project and the West Africa Seed and Planting Material Network (WASNET) whose aim is to revamp the private seed sector and to promote the development of broad-based national and regional seed associations, initiated contacts leading to an information and awareness-raising workshop for private seed producers and distributors on 25 June 2005, in Abomey-Calavi. Below is the summary report of the workshop.

Opening of the workshop

The workshop was declared open by Mr Bruno Ouedraogo of IFDC, on behalf of the Permanent Representative of IFDC who was on mission inland. In his opening statement, he welcomed the participants from various provinces in Bénin. He then highlighted the objectives and interventions of the IFDC/MIR Project in West Africa and described the context in which the workshop was being held.

Objectives of the workshop

The overall objective of the meeting was to inform and create awareness among seed producers and distributors of Bénin on the development of the seed sector in the West African region as well as on regional opportunities for meeting with the seed stakeholders from the other countries of the subregion.

Specific objectives:

- To inform participants on the process of harmonization and regulation for seed quality control and seed certification and on the regional common catalog for plant species

Participants at the information workshop for seed stakeholders in Bénin.

and varieties being prepared under the aegis of ECOWAS and the West African Economic and Monetary Union;

- To shed light on the potential benefits of a national seed organization in Bénin through presentations by the regional bodies and the other countries of the region.

Presentation of papers

Three PowerPoint presentations were made by the WASNET Coordinator. Participants had the opportunity of exchanging views during the presentations which dealt with:

- The development of seed regulation in WAEMU and ECOWAS regions
- The role of WASNET in the development of seed industry in West Africa
- The benefits and achievements of the seed associations of the subregion e.g., FACIA andAFSTA

Each participant received a full set of the three presentations.

The evolution of seed regulation in WAEMU and ECOWAS regions

In his first presentation, the Coordinator discussed the history of the various consultations held so far as part of the seed regulation harmonization process in West Africa. He started with the workshop held in March 2002 in Dakar, Senegal, under the aegis of FAO; then in January 2004 again in Dakar, Senegal; November 2004 in Lome, Togo, under the aegis of WAEMU and in partnership with FAO, IFDC, WASNET, GNIS, CILSS, AFSTA etc.; and finally the consultation of June 2005 in Ouagadougou, Burkina Faso.

The last meeting held in June 2005 at WAEMU's Headquarters was an opportunity to discuss ECOWAS' involvement in the process of harmonization of seed regulation with FAO, IFDC, WASNET and CILSS following the adoption of the Community agricultural policy in January 2005 in Accra, Ghana. The key decisions and achievements arising from the various meetings were presented, namely:

- The decision to appoint WASNET, IFDC, and AFSTA as lead institutions for the harmonization of seed regulation in West Africa;
- The consensus in favor of eleven (11) plant species for the start of the process of harmonization;
- The three categories of seed (breeder, foundation, and certified seeds) must be subject to control;
- The development of harmonized norms and standards for quality control (field and laboratory) and for seed certification;
- The development of a common variety catalog for marketable species in the WAEMU region;
- The lead role to be played by WAEMU with the collaboration of, and technical and financial support from FAO, IFDC, GTZ, WASNET, GNIS, AFSTA, and CILSS.

Given the large number of structures and institutions involved, a detailed road-map covering the activities, responsibilities, performance indicators, and timing was drawn up to allow a successful implementation of the process.

Thanks to the road-map, a number of results were obtained including mainly:

- Harmonization of standards for rice, maize, millet, sorghum, groundnuts, tomato, and onion on the basis of existing subregional and OECD (Organization for Economic Cooperation for Development) standards.
- Cowpea and Irish potato are not admitted to the OECD seed system. Standards for these two species are therefore set based on existing subregional and country standards.
- Not a single WAEMU member country has set standards for cassava and yam. Moreover, the two species are not yet admitted to the OECD seed system. The standards proposed to WAEMU for these two species are based on the experiences and standards of other countries.
- The involvement of ECOWAS will impulse the ongoing harmonization process in West Africa.

During the following discussion, the Coordinator provided clear and precise answers to the questions asked by the participants.

The role of WASNET in the seed industry in West Africa

Before getting into the heart of the matter, the speaker briefly recalled that the creation of WASNET was prompted by the similarities of benefits as well as of constraints facing agriculture in the countries of the subregion. In his submission, he defined the mandate and objectives of WASNET and also listed the current member countries.

The presenter dwelled on the organizational structure of WASNET (membership, bodies, General Assembly, Steering Committee, Board of Directors, the regional coordination and the national networks).

WASNET helped with the establishment and promotion of national associations in West Africa. Illustrations of meetings leading to the creation of national associations were shown in order to motivate the participants.

The participants were taken through the various stages involved in the establishment and operation of the regional network.

The responsibility for some WASNET regional activities falls on individual countries. Such approach facilitates contacts between national coordinators. The activities include:

- Review of seed certification plans in the region (Bénin)
- Development of a regional seed standard catalogue (Burkina Faso)
- Review of the system for approving varieties in the region (Côte d'Ivoire)
- Review of national seed policies in the region (Gambia)
- Development of a regional directory for seed stocks (Ghana)
- Review of seed laws in the region (Niger)
- Development of a regional varietal catalog (Nigeria)
- Review of seed import/export regulations in the region (Mali)
- Gathering of statistical data on actual seed needs and production in the region (Senegal)
- Preparation of a regional directory of seed industry participants (Togo)

A lively discussion followed during which the presenter answered questions from participants.

Benefits and achievements of seed associations in the subregion: the case of FACIA and AFSTA

This presentation gave the history of the two regional associations. The Federation of African Agri-input Trade Associations (FACIA) is composed of 27 national organizations from 17 countries of West and Central Africa, representing almost 5000 professional distributors of fertilizers, phytosanitary products, seeds,

and agricultural equipment. FACIA was officially launched on 5 and 6 October 2004 in Ouagadougou, Burkina Faso, after four years of annual consultations with agricultural input stakeholders of the private sector. FACIA whose headquarters is in Bamako, Mali, is a platform of dialog and exchange among its members. It is a non-profit, non-religious and apolitical organization. The presenter dwelled on the objectives of FACIA, namely:

- To contribute to the development of the African agricultural input trade market through the harmonization of national and regional policies and regulations;
- To uphold the interests of members by carrying out advocacy and lobbying administrative, legislative and legal authorities;
- To strengthen technical and professional capacities in member organizations;
- To collaborate with national, regional and international organizations likely to help achieve such objectives.

The organizational structure of FACIA:

- The General Assembly of all the members as the supreme body of the Federation
- Five sector-based committees (fertilizers, phytosanitary products, seeds, equipments, other inputs)
- A Board of Directors as the executive body of FACIA (President, Vice-President, Treasurer, Secretary General, Assistant Treasurer, and the Chairpersons of the five sector-based committees)
- Executive Secretary recruited by FACIA to manage the secretariat.

The African Seed Trade Association (AFSTA) based in Nairobi, Kenya, was officially launched in March 2000 in South Africa as a nongovernmental, apolitical and non-profit organization. By 2004, it had 56 members including 14 African seed associations, 28 seed companies, 10 seed associations and companies outside Africa, 3 service providers, and a nongovernmental organization. The objectives of AFSTA could be summarized as follows:

- To promote the use of good quality improved seeds;
- To strengthen communication between the African seed industry and the rest of the world;
- To facilitate the establishment of seed trade associations in African countries;
- To facilitate the exchange of planting material in accordance with national legislations and international conventions on seeds;
- To develop a database on seed production and trade in Africa, etc.

In terms of activities, AFSTA organizes a yearly congress which is a platform for discussion and exchange of views for members and for various international organizations such as UPOV, OECD, FAO, ISTA, IFS, etc. To date AFSTA's congress have taken place in:

- Egypt, 2001
- Senegal, 2002
- Kenya, 2003
- Tunisia, 2004
- Cameroon, 2005
- Uganda, 2006 (March 2006)

The one-day workshop also included a participatory session during which participants identified the major constraints hampering the development of the private seed sector in Benin. The session, led by the representative of IFDC/MIR Project, enabled the participants to realize the importance of getting together in order to find global solutions to those constraints. Mrs. Isabelle Ahouandjinou was appointed by her fellow participants to coordinate the actions they individually committed themselves to take in order to make the initiative known to the other producers and distributors.

Norbert G. Maroya, Regional Coordinator WASNET, PO Box 9698 KIA Accra, Tel/Fax: +233 780714; E-mail: n.maroya@cgiar.org

Participants at the seed information and awareness workshop in Bénin.

N	Surname	Name	Departement	City	Structure	Function	Telephone	E-mail
1	Aly	Djima	Atlantique	Allada	INRAB	Scientist	06 77 63	aldjim5@yahoo.fr
2	Alladacan	Annette	Littoral	Cotonou	Ste KAN'S Inter	Distributor Tézier	79 88 36	
3	Ewede	Euloge	Mono	Houeyogbé	MRJC-Benin	Seed Producer and Distributor	40 44 57	mrjcbenin@yahoo.fr
4	Adjadi	Omonlara	Atlantique	Abomey-Cal	Ferme Cheyi	Coordinator	94 42 57	aomonlara@]yahoo.fr
5	Nounahon	Marcellin	Littoral	Cotonou	F T P	Director	90 62 23/ 32 5518	
6	Do-rego	Anicet	Littoral	Cotonou	COMAKO (Distr-Sem)	President	92 60 28	comako12@yahoo.fr
7	Seidou sadicou	Amoussa	Ouemé	Kétou	Ass Prod et Distr sem	President	42 89 76	
8	Ahouandjinou	Isabelle	Atlantique	Cotonou	Semence-Acceuil Paysan/Dist	Rural development Engineer	06 67 47	sindépi@yahoo.fr
9	Ahounou	Gilbert	Plateau	Kétou	Ass Prod et Distr sem	Secretary Producers' Association	98 51 54	fermeASHIRIBO@yahoo.fr
10	Fagbohoun	Janvier	Atlantique	Pahou(Ouidah)		Vegetable farmer (Distributor)	47 51 44	
11	Bassaou	Ténga	Alibori	Malanville	GERED ONG	Trainer (Distributor)	07 00 11	
12	Noudahikpon	Raymond	Littoral	Cotonou	SOGICOM-Inter	Head Technical and -commercial unit	32 30 98	sogicom@intnet.bj
13	Salifou idrissou	Boukari	Borgou	Parakou	LA BONNE Semence	Distributor	69 78 75	
14	Gbankoto s.	Abibata	Borgou	Parakou	PROCHIMAT	Distributor	08 94 81	
15	Aguessi	Nestor	Ouemé	Kétou	Ass Prod et Distr sem	Head Production° and marketing	84 67 08	
16	Agbayahoun	Joseph	Atlantique	Ouidah	UCP(Ouidah)	President	40 41 90	
17	Kpede	Omer	Littoral	Cotonou	Royal Sluis	Seed distributor	96 13 48	
18	Noudofinin	Maurice	Ouemé	Porto-Novo	SPVCP/DAGRI	Head Early warning Unit	28 71 81	mnoudofinin@yahoo.fr
19	Bouraima	Yacouba	Ouemé	Porto-Novo	SPVCP/DAGRI	Inspection Unit	96 41 13	bouraimayacouba54@yahoo.fr
20	Cakpo rene	François	Littoral	Cotonou	DPQC	Collaborator DPQC	03 93 15	dpqc@intnet.bj
21	Bankole	Faikè Lucienne	Ouemé	Porto-Novo	St Group gbénonkpo	Seed retailer	92 57 78	
22	Maroya	G. Norbert	Ghana	Accra	WASNET	Coordinator	23321780714	n.maroya@coraf.org
23	Ouedraogo	Bruno	Atlantique	Cotonou	IFDC-Bénin	Cotton input marketing	30 59 90	bouedraogo.@ifcd.org

Seed actors and varieties grown in Togo

Kodjo Labare

Introduction

Within the framework of the West Africa Seed and Planting Material Network (WASNET), a number of tasks were assigned to national coordinators in WASNET member countries in line with a recommendation of the 2nd General Assembly of 23 to 26 February 2004 in Dakar, Senegal. The recommendation calls for the creation of a regional database on seed needs and availability for member countries. In setting up the data base, the following actions are required, among other things: *(i)* to draw up the list of varieties and species officially registered in each country, *(ii)* to generate seed production statistics for major crops, *(iii)* to estimate certified seed needs for each main food crop and *(iv)* to develop the directory of seed stakeholders in the various countries.

It is against such background that this report was drafted by the National Coordinator after consultation with the major seed stakeholders in the various regions of the country. This report provides only part of the story. More information will be supplied and published later during the 3rd General Assembly. Data on the production of the main food crops, cultivated varieties, seed production, seed users, etc. are presented by crop family (cereals, roots and tubers, grain legumes).

Official statistics for major food crops

In Togo, agriculture rests essentially on food crops mainly cereals, root and tuber crops, grain legumes, and vegetable crops which account for almost 65% of the Gross Domestic Product (World Bank, 1996). According to the latest agricultural census, cereals head the list of food crops with about 71% of cultivated areas followed by roots and tubers with 12% of cultivated areas (DSID, 1996).

The agricultural production trend has been up and down, with increases due mainly to the expansion of the farmland. Despite the development and release of new high-yielding varieties, mean yields are still generally low across crops: maize (1–1.5 t/ha); sorghum (0.8–1 t/ha); yams and cassava (8–10 t/ha); cowpea (300–500 kg/ha); and groundnut (500–700 kg/ha) (Tables 1, 2, and 3).

Table 1. Trend for cultivated areas, yields, and production figures for main cereal crops (1990–2004).

	Years														
Crop	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Maize															
Area (ha)	295,700	255,400	274,200	338,900	373,579	339,565	412,118	483,534	404,101	412,018	401,053	405,780	403,228	422,644	414,354
Yield (t/ha)	0.914	0.894	0.981	1.218	0.985	0.850	0.998	1.122	0.833	1.224	1.226	1.169	1.276	1.290	1.275
Prod. (t)	385,448	231,400	278,052	393,076	347,695	290,432	387,562	432,160	350,485	493,570	482,056	463,931	510,084	537,956	523,650
Sorghum															
Area (ha)	183,900	191,600	144,800	196,050	203,596	199,181	248,839	206,809	203,899	176,663	181,884	153,669	195,184	177,677	167,638
Yield (t/ha)	0.726	0.811	0.823	0.720	0.771	0.895	0.698	0.807	0.728	0.850	0.879	0.833	0.931	1.090	1.083
Prod. (t)	114,615	141,368	112,319	126,299	109,605	172,325	155,853	151,755	136,58	141,658	154,848	141,723	168,983	163,272	169,784
Millet															
Area (ha)	142,600	133,00	135,300	149,600	154,301	110,354	116,696	93,540	89,928	84,589	79,580	78,580	76,169	67,681	50,995
Yield (t/ha)	0.441	0.389	0.684	0.621	0.364	0.658	0.590	0.513	0.529	0.625	0.620	0.640	0.822	0.854	0.885
Prod. (t)	57,907	49,820	75,39	75,240	74,206	74,206	55,137	48,749	40,694	39,337	37,372	41,248	51,527	47,135	35,018
Paddy rice															
Area (ha)	19,200	24,155	13,650	28,200	52,725	41,916	57,442	31,957	42,397	38,139	32,413	32,110	32,014	28,614	32,276
Yield (t/ha)	1.436	2.148	2.006	1.66	1.169	1.810	1.897	2.709	2.336	2.083	2.083	2.336	2.570	2.743	2.572
Prod. (t)	25,149	39,328	25,265	33,769	50,088	51,236	76,515	86,211	86,663	81,061	62,306	63,694	69,243	62,048	88,518

Source: DSID Cropping seasons 1990/1991–2004/2005

Table 2. Trend for cultivated area, yield and production figures for main root and tuber crops (1990–2004).

	Years														
Crop	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Yams															
Area (ha)	43,300	41,700	44,200	51,300	49,305	61,805	69,334	62,170	70,227	60,941	51,220	53,948	54,066	57,967	58,761
Yield (t/ha)	9.438	9.144	8.678	10.335	9.900	8.647	9.006	11.244	10.592	11.124	11.239	10.384	10.752	10.679	11.018
Prod. (t)	391,853	376,478	367,997	530,412	484,023	530,502	60,431	683,031	696,145	665,632	563,286	549,071	574,887	614,960	636,304
Cassava															
Area (ha)	77,100	65,560	65,650	56,800	90,403	101,780	96,350	95,616	93,193	114,534	123,941	109,014	131,907	133,584	115,938
Yield (t/ha)	8.915	9.686	9.438	9.094	8.101	8.384	8.280	8.256	9.737	10.381	9.976	9.277	10.061	9.428	10.130
Prod. (t)	592,867	510,528	452,093	389,448	531,526	602,212	548,316	595,792	579,381	693,998	700,697	651,530	727,708	778,864	679,082
Potato															
Area (ha)	1,504	390	4	6,959	2,023	231	3,266	965	1,286	2,036	1,643	1,831	–	–	–
Yield (t/ha)	6.979	9.202	0.025	6.352	6.030	5.850	3.036	6.262	4.595	6.582	3.206	0.831	–	–	–
Prod. (t)	7,873	1,722	100	27,318	11,200	1,332	5,441	6,237	5,671	9,291	2,752	1,353	5,459	1,425	–
Taro															
Area (ha)	8,100	5,650	6,300	604,160	735	5,410	6,929	9,342	13,439	20,253	21,982	13,762	–	–	–
Yield (t/ha)	1.702	2.234	2.103	2.200	2.171	2.055	1.819	1.600	0.944	0.965	2.150	1.300	–	–	–
Prod. (t)	13,697	13,667	10,698	19,520	15,272	11,116	7,477	10,757	15,304	32,055	22,311	15,453	39,887	19,565	–

Source: DSID Agricultural seasons 1990/1991–2004/2005

Table 3. Trend for cultivated areas, yield and production figures for main grain legumes (1990–2004).

	Years														
Crop	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Cowpea															
Area (ha)	114,500	88,200	97,700	180,100	85,848	129,110	173,081	169,065	150,394	135,371	144,310	147,496	169,825	145,566	159,002
Yield (t/ha)	0.380	0.351	0.246	0.437	0.426	0.374	0.408	1.411	0.312	0.608	0.511	0.521	0.445	0.525	0.472
Prod. (t)	19,630	17,001	23,766	38,557	27,735	28,994	42,644	46,683	32,738	45,391	41,769	41,336	44,671	43,633	49,419
Peanut															
Area (ha)	56,900	39,694	41,081	73,483	101,969	71,650	110,112	58,398	60,919	61,749	53,894	53,841	51,730	63,313	59,286
Yield (t/ha)	0.433	0.546	0.909	0.565	0.464	0.530	0.590	0.622	0.537	0.576	0.545	0.616	0.755	0.687	0.678
Prod, (t)	26,485	21,843	32,066	34,682	38,574	35,088	55,420	34,236	27,158	35,375	25,976	33,023	35,682	38,244	34,870
Bambara nut															
Area (ha)	5,300	4,170	3,127	8,500	15,417	7,710	40,350	13,292	7,512	8,413	7,031	8,162	–	–	–
Yield (t/ha)	0.400	0.600	0.734	0.531	0.372	0.336	0.906	0.866	0.619	0.765	0.766	0.697	–	–	–
Prod. (t)	2,108	2337	2083	1,403	5,423	2,784	19,799	10,224	4,520	6,446	5,701	5,383	8,070	4,104	–

Source: DSID Agricultural seasons 1990/1991–2004/2005.

Projections of output for the main food crops

Production trends are generally dictated by the amount of land under cultivation. The total land area grown with food crops widely varies depending on the land area devoted to cotton, the major source of income for the populations.

Thus, as the price of cotton increases, farmers cultivate more land with cotton to the detriment of food crops.

Production of food crops is to meet the food needs of the family, and not for cash income. As a result, projections are difficult. However, the Department of Agricultural Statistics has been able to make projections solely for production (Table 4) on the basis of a mean annual growth rate of 4%.

Such projections could be far from reality, especially because of a number of reasons: agriculture is essentially rainfed; cultivated areas are up and down; use of improved seeds is highly inadequate; and farmers use low dosage of chemical fertilizers.

List of cereal varieties in farmers' fields

Togo is yet to set up a structure for certifying plant varieties. Thus, mention will be made only of improved or unimproved varieties currently grown by farmers in Togo.

Three types of varieties are often found in fields namely (i) farmers' traditional varieties, (ii) new varieties developed in Togo, and (iii) varieties introduced from international research centers and/or from other countries of the subregion. However, Table 5 only shows improved varieties, as cultivated landraces are many and quite varied, and have not been characterized.

Table 4. Projected output for the main food crops, 2006–2010 (tons).

Crop	Years				
	2006	2007	2008	2009	2010
Cereals	965,044	1,000,549	1,036,054	1,071,559	1,107,064
Maize	586,946	608,179	629,412	650,645	671,878
Sorghum	187,662	191,046	194,430	197,814	201,198
Millet	55,437	57,906	60,375	62,844	65,313
Paddy rice	127,523	135,212	142,3901	150,590	158,279
Roots & tubers	1,572,096	1,628,736	1,685,376	1,743,016	1,799,656
Yams	791,683	831,358	871,033	910,708	950,383
Cassava	750,166	766,275	782,384	798,493	814,602
Sweet potato	9,279	9,307	9,335	10,363	10,391
Cocoyam	20,968	21,796	22,624	23,452	24,280
Legumes	126,962	131,766	136,570	141,374	146,178
Cowpea	67,925	70,774	73,623	76,472	79,321
Groundnuts	48,242	49,374	50,506	51,638	52,770
Bambara nut	10,795	11,618	12,441	13,264	14,087

Source: DSID, 2004/2005

Table 5. Main improved cereal varieties grown in Togo.

Crop	Variety	Origin	Cycle (No. of days)	Grain color	Yield (t/ha) Max	Yield (t/ha) Mean
	AB11	ITRA/Togo	90–100	White	5	3
Maize	Amen	ITRA/Togo	90–100	"	4	2.5
	Ikenne 9449 SR	CIMMYT/IITA	90–100	"	5	3
	Pirsaback	CIMMYT	90–100	"	2.5	5
	Poza Rica 8443 SR	CIMMYT	110–120	"	6	4
	Pop 61 QPM	CIMMYT	85–95	Yellow		
	Obatanpa QPM	CRI/Ghana	90–100	White	6	3.5
	EV 99 QPM	CRI/Ghana	75–90	"	4	2.5
	TZL Comp 1 WC4	IITA		"		
	95TZEE W	IITA		"		
	95TZEE Y	IITA		Yellow		
	DMR ESR W	IITA		"		
	TZE SR x GUA 314	IITA	70–80			
	Sorvato 1	ITRA/ Togo	100–110	White	3	5
Sorghum	Sorvato 28	ITRA/ Togo	100–110	Red	2.5	4
	Sorvato 41	ITRA/ Togo	100–110	White	3	5
	IR 841[1]	IRRI	110–120		5	3
	TGR 301[1]	ITRA/ Togo				
	TGR 1[1]	ITRA/ Togo				
	TGR 75[1]	ITRA/ Togo				
Rice	Wita 4[1]	ITRA/ Togo				
	TGR 68[2]	WARDA	110–120		6	4
	TGR 402[2]	WARDA	110–120		5	3.5
	Nerica 3[2]	WARDA				
	Nerica 4[2]	WARDA				
	Nerica 6[2]	WARDA				

[1] Lowland or irrigated rice [2] Upland rice

Table 6. The most popular root and tuber crops in Togo.

Crop	Variety	Origin	Cycle (months)	Quality	Yield(t/ha) Max	Yield(t/ha) Mean
Cassava	Gbazékouté	ITRA/Togo	12	Disease and pest resistant, good for *fufu*, *gari* and chips	40	25
	Main 27	ITRA/Togo	12	Disease and pest resistant, good for *fufu*, *gari* and chips	30	15
	Lagos	–	12	Disease and pest resistant, good for *fufu*, *gari*	40	20
	Cameroun	–	12	Disease and pest resistant, good for *fufu* and chips Disease and pest resistant, good for *gari* and chips	40	20
	TMS 30572	IITA	12	Disease and pest resistant, good for *gari* and chips Disease and pest resistant, good for *gari* and chips	40	20
	TMS 4(2) 1425	IITA	12	Disease and pest resistant, good for *gari* and chips	40	20
	TMS 92/0326	IITA	12		50	30
	312-524	IRAT	12		40	15
Yam	Laboco[1]	Togo	6	Tasty, good *fufu*	20	10
	Kratsi[1]	Togo	10	Good, good *fufu*	25	12
	Katala[1]	Togo	7	Good fried chips, good *fufu*	25	14
	Koukou[1]	Togo	10	Good fried chips, good *fufu*	20	12
	Florido[2*]	Puerto Rico	–	Storable	30	15
	TDR 179	IITA	–	Good for *fufu*	25	15
	TDR 747	IITA	–	–	25	15
Irish potato	AIDA	France	3	– Disease-tolerant and boiling type	28	15
	KONDOR	Germany	3	•	25	15
	MONDIAL	Netherlands	3,5	•	22	12
	AGRIA	Germany	3	Storable, boiling type	20	10

[1] Local varieties [2] Variety of *D. alata*

List of root and tuber crop varieties

Several species of root and tuber crops are cultivated in Togo, namely cassava, yam, sweetpotato, Irish potato, and cocoyam. The most popular are cassava, yams, and Irish potato. The main varieties grown (Table 6) are landraces (cassava and yam) and/or introduced mainly from IITA (cassava) and Europe (Irish potato).

List of grain legume varieties

Cowpea, groundnut, soybean, and Bambara nut are the most popular grain legume varieties cultivated in Togo. The most commonly grown varieties for each crop species are uncharacterized landraces. As a result, they do not appear in the list (Table 7).

Food crops seed production statistics

In Togo, commercial seed multiplication is carried out by the government-owned Seed Farm in Sotouboua and also by various actors of the private sector. These days, only cereal seeds (maize, sorghum, and rice) and legume seeds (groundnut, cowpea, and soybean) are multiplied. No seed actor is yet engaged in the multiplication of roots and tubers.

In the absence of seed legislation, most of these seed actors operate underground thus escaping control by

competent technical services. Hence, the difficulty in maintaining seed production statistics. The statistics shown in table 8, which will be supplemented by production figures of 2003 and 2004, are summations of the quantities produced by the seed farm, grower groupings, and individual seed farmers who are known and supervised by technical services.

Projections of seed production

In general, seed production in Togo is not based on needs. The selection of varieties for cultivation and the amount of seeds to be multiplied depend only on the will of seed growers. Thus, the wide diversity of varieties within a single plant species as well as the versatile preferences of seed growers account for the difficulty in planning the quantity of seeds required. Therefore, projections are difficult.

Table 7. Most common grain legume varieties cultivated in Togo.

Crop	Variety	Origin	Cycle (days)	Quality	Yield (t/ha)	
					Max	Mean
	VITOCO	IITA	90	Big white seed/Fast cooking	2.8	1,2
Cowpea	TVX 1850-01E	IITA	70		2.1	1
	58-146	Senegal	70	Red seed/Insect tolerant	2	1
	VITA-5	Nigeria	90	Purplish seed/good for intercropping	2	0.8
				Small white seed/ resistant to borers		
Ground-nut	TS 32-1		90		3	1.5
	RMP-12		120		4	2
Soybean	JUPITER	–	–	–		
	ISRA 44/73 A	Senegal	110	Resistant to lodging and shattering	3	1.5

Table 8. Seed productions for major food crops (tons).

Crop	Years												
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Maize	441	250	175	159	251	241,6	236.2	265	200	100,7	193.1	286	429
Sorghum	–	–	–	–	–	–	–	–	–	–	–	5	12
Rice	124	80	29.6	31.6	15	19.0	19.1	75	80	15.2	2.86	20	50
Groundnuts	14	5.6	10.3	2.4	1.5	1.8	1.8	15	10	0.37	2.23	4.5	3
Cowpea	139	27.4	34.4	25.3	37.8	41.2	43.6	6	30	2.50	2	12	15,5
Soybean	4.6	4.3	–	0.8	3.1	0.5	2	5	9	1.50	0.36	2	2,5
TotaL		368	247	219	288	294	41	371	339	120	201	329	512

Source: Data based on productions by various seed actors.

List of seed operators

In the present situation, it is difficult to know all the players of the country's seed sector. As seed multiplication is a lucrative activity, many people now claim they are farmers and/or commercial seed distributors. Often, these are hawkers who go out of business after a few years. They could be civil servants, retirees, or farmers' groups. As for the groups, production is carried out on individual basis and products are put into a common basket for marketing. Since 2003, many growers have ceased production due to bad weather and the resulting lack of profit. An exhaustive list of seed operators doing business in the country is still being awaited.

Furthermore, seed growers distribute their own seeds themselves and few operators are exclusively engaged in seed distribution (Table 9).

Table 9. Summary of seed operators across the country.

Region	Name of operator	Nature of operation	Social status	Address
Maritime	Ali Komla	Grower	Individual	Alokoegbe, BP 22, Tél.225-03-42
	Aba Grégoire	Grower	Individual	Vogan BP 117, Tél.331-01-68
	Doigts Verts	Processor/distributor	NGO	–
	Callitogo	Processor/distributor	NGO	BP12465, Lomé- Tél,227-00-69
	Azonvidè K, Inalessè	Grower	Individual	Yokèlé, s/c ICAT–Kloto
	Abotchi K,Godwin	Grower	Individual	BP 8801, Lomé- Tél, 250-87-56
	Azonvidé Séwou	Grower	Individual	S/c ICAT, Agence Kloto
Plateaux	Abossa Abalo	Grower	Individual	S/c ICAT, Agence Kloto
	Nangbanda Bayalo	Grower	Individual	Tové - S/c ICAT, Agence Kloto
	Pali Banawè	Grower	Individual	Elé - S/c ICAT, Agence Kloto
	Dao Kossi	Grower	Individual	Goudévé
	Dr Kwaku	Grower	Individual	Goudévé
	Gbéssou Koffi	Grower	Individual	Bodjé - S/c ICAT, Agence Kloto
	Piteng Kalimondou	Grower	Individual	Elé - S/c ICAT, Agence Kloto
	Complexe Agricole	Processor/distributor	Farmers' group	Kpadapé (Kloto)
	Monde Rural	Processor/distributor	Farmers' group	Adéta / Kpalimé
	Ets Bon Planteur	Processor/distributor	Company	BP 296, Kpalimé- Tél,905-95-08
	Ets La semence	Processor/distributor	Company	BP 58, Kpalimé-Tél, 441-11-51
	Umigad	Processor/distributor	Farmers' group	Danyi Apéyémé
	Ets Promesse de Dieu	Processor/distributor	Company	Danyi Elavanyo
	Nukuinyui (Kloto)	Grower	Farmers' group	BP 12 Kpalimé
	Amen	Grower	Farmers' group	S/c ICAT, Agence Kloto
	Soysal Toponi	Grower	Farmers' group	Adéta, BP 12
	Gaprak	Grower	Farmers' group	Adéta, BP 12
	Gjaa	Grower	Farmers' group	Adéta, BP12
	Nukuinyui (Ogou)	Grower/Distributor	Farmers' group	Atakpamé, S/c ICAT agence Ogou
	Ferme Bethelhém	Grower/distributor	Farmers' group	Kpélé Tutu
	RHINCAMI	Grower	Farmers' group	BP 650, Sokodé -Tél,911-07-19
Centrale	Jeunesse Pionnière agric,	Grower	Farmers' group	Koussountou, Tchamba
	Magnim	Grower	Farmers' group	Affém-Kabyè, Tchamba
	La terre ne trompe pas	Grower	Farmers' group	Affém-Kabyè, Tchamba
	Tankawara	Grower	Farmers' group	Pagala, Blitta
	Le paysan	Distributor	Company	Sokodé
	Abiyou Palali	Grower	Individual	BP 129, KaraTél, 660-60-13
Kara	Azei Wéré	Grower	Individual	BP 76 Kara Tél, 660-18-93
	Alfani	Grower	Farmers' group	Gandè– Assoli
	Windja	Grower	Farmers' group	BP 03, Kara-Tél,660-60-50
	Ponaba	Grower	Farmers' group	Kabou, Bassar
	Essossina	Grower	Farmers' group	Tankpayabour, Bassar
	Assoun	Grower	Farmers' group	Boularé, Bassar
	Sourou N'ba	Grower	Farmers' group	Bassar
Savanes	Yendoubé	Grower	Farmers' group	BP 128 Dapaong Tél,770-80-14
	Lansoatibe	Grower	Farmers' group	Tandjoaré
	Mindj'coub	Grower	Farmers' group	Tône
	Molbagou	Grower	Farmers' group	Dankpen
	Tampango Mintchièbe	Grower	Individual	Biankouri, Cinkansé
	Lamboni Dindiogue	Grower	Individual	Nacré, Tône
	Kampiame Lalle	Grower	Individual	Nioukpourma, Tône
	Kolani Naba	Grower	Individual	Toaga, Tône
	Dongo Saya	Grower	Individual	Akpossou, Oti

Table 10. List of registered seed associations.

Region	Association	Member group	Crops of interest	Address
Plateaux	Association des producteurs de semences commerciales de Kloto (APSC- Kloto)	Amen, Gapprak, Soysal, Complexe Agricole and 10 individual seed growers GARE, Promesse de Dieu, Nukunyui and 4 individual seed growers	Maize Cowpea	BP 12 , Adéta Tél.:449-60-57 Cell: 917-17-06
	Association des producteurs et distributeurs de semences de Danyi (APDS - Danyi)	Novissi, Gbenodou, NEVAME et 4 individual seed growers	Maize Cowpea	BP 21 Danyi Tél. : 447-50-28
	Association Multiplicateurs de semences d'Agou (AMSAGOU)	Retrouvailles, Nevamé, Ebonaléli	Maize Cowpea	–
	Association des Multiplicateurs de semences de base d'Amou (AMSBA)		Maize Rice	BP 17 Amlamé
Centrale	Association la Semence	Rhincami, Ets le paysan, Tankawara, Magnim, La terre ne trompe pas et Jeunesse pionnière agricole,	Maize Cowpea Rice	S/C FSS BP 88 Sotouboua
Savanes	Mini Fédération Totl'man	Gnoumongue, Mondo, Garo, Gnangbingbong, Djalotougou, Samogmoni, Sougle-man, Momonte, Totilman, Sefobe Gnakping, Noambitite Sam-Naba, Mampoate	Maize	Timbou, S/c ICAT, Tône

Inventory of seed associations in Togo

Togo has no national structure to handle seed-related matters. A few seed associations are found in the regions (the administrative divisions) but they do not seem to be running smoothly. There are four seed associations in the Plateaux region, one in the Central region, and one in the Savanna region. These associations are often the result of a merger of two or several groups of seed growers or distributors. Other associations are seed farmers' groups and individual seed growers (Table 10).

List of seed end users

Most of the key end users of commercial seeds are individual farmers. Farmer organizations quite often produce certified seeds. NGOs sometimes buy certified seeds for redistribution to farmers under their own supervision. This is a rare occurrence, and in such conditions, they cannot by the same fact, be considered as final seed users.

National training needs in the seed sector

Training needs in the seed sector are enormous, both in the public and the private sector. Essentially, they relate to:

In the public sector:

- The general principles and technical aspects of seed legislation
- The organization of a national seed program: role of the government and of the private sector
- Quality control and seed certification: quality and analytical standards

In the private sector:

- Seed multiplication methods
- Cropping techniques
- Processing of harvest and seed packaging
- Seed marketing and trade
- Importance of seed associations in the country

Conclusion

This report on the seed sector in Togo has provided the following global picture: the sector is ill organized and is characterized by a lack of seed legislation and quality control. There is a whole range of operators but most of them do their business under anonymity and cannot be easily listed. For these reasons, seed production data presented in this report only relate to seed quantities recorded by supervised seed growers. The information is incomplete due to the multitude of seed players scattered here and there in the country.

References

World Bank. 1996. Togo: sortir de la crise, sortir de la pauvreté

Direction des Statistiques agricoles de l'Informatique et de la Documentation (DSID). 1990–2004. Données statistiques de production des principales cultures vivrières de 1990 à 2004,

Kpodar, A.N. 2003. Quelques données de base sur le secteur semencier national au Togo, 1st report, 39 p.

Anonymous. Données de production de semences collectées auprès des opérateurs semenciers dans les différentes régions,

Kodjo Labare, National Coordinator of WASNET, PB 1163 ITRA tel + 228 2252148/2254118 Fax : +228 225 1559 k.labare@coraf.org

Quality seed development and varietal releases in Ghana: The 1st step in agricultural productivity

Isaac F. Jackson

Two major challenges facing the world community are:

1. To meet the food demands of an increasing population and
2. To reverse environmental degradation

The world population is expected to rise to 8500 million by 2025. Most of this growth in population will take place in developing countries, where satisfying the increased demand for food will require an estimated 60% expansion in agricultural production.

The problem of increased growth in agriculture is compounded by poverty which has been identified as one of the main causes of land degradation which aggravates expansion in agricultural production.

Where agriculture has little room for expansion, much of the extra food needed to support population growth must come from intensifying production.

Placing greater emphasis on the production and distribution of quality seed is recognized as one of the main inputs required to achieve increased crop productivity, yields, and cropping intensities. The expanded use of quality seed in conjunction with other inputs, such as water and fertilizers, is essential to the progressive intensification of agriculture; however, the production and utilization of quality seed are still limited in many developing countries.

In Ghana, this challenge of improved seed production and distribution has been taken up by research in conjunction with other relevant stakeholders.

In 1997, a well blended National Varietal Release Committee was put in place "under the Ministry of Food and Agriculture, Ghana, to approve all plant genetic materials which shall be propagated as seeds materials for cultivation in Ghana."

The committee has, since its inception, released several varieties of crops including: cassava, yam, sweetpotato, maize, cowpea, soybean, groundnut, plantain, which were developed by the research institutes and the universities in Ghana. In the first half of 2005, the National Varietal Release Committee at the instance of the Crops Research Institute (of the Council For Scientific and Industrial Research) in Kumasi, Ghana and the Crop science Department of Faculty of Agriculture, University of Cape Coast, Ghana, released; six (6) varieties of cassava, four (4) varieties of sweetpotato, three (3) varieties of yam, four (4) varieties of groundnut, two (2) varieties of soybean, and two (2) varieties of pepper, to add on to and to improve upon the performance of the crops in addressing the socioeconomic needs of the country.

The release of these varieties was vital to the growth and development of the people of Ghana and elsewhere and also to enhance the food security situation in the country and to improve farmers' incomes.

Yam

The yam genotypes released have good culinary qualities and are suitable for export to reinforce the country's leading role in the exportation of yam.

Cassava

Cassava continues to be one of the major staple crops for Ghana. Its improvement to satisfy varied tastes and needs cannot be overemphasized.

Large-scale industrial starch production is a presidential special initiative in Ghana for the production of starch for local and exports markets, Varieties released have the capacities to replace existing ones which are becoming vulnerable to disease as raw material base for the starch factories.

Sweetpotato

Every year, the health authorities in Ghana, administer supplementary vitamin A to children up to 5 to 7years in the country.

The financial outlay for this exercise can be extraordinary.

The development of the orange flesh sweetpotato varieties has come as a potential relief. The varieties have high levels of Beta carotene which is a precursor of vitamin A. Intergrating the varieties in the diets of children will therefore serve as a cheap source of the vitamin A for the children.

Pepper

In pepper production, Ghana was rated 15 among the world's leading producer countries and 3rd in Africa in 1996. Ghana's performance on the export market has gone down due to low standards. Lack of improved seed has been rated as the most important problem contributing to the low standards in the vegetable industry. The release of two pepper genotypes in March 2005 will go a long way to arrest the falling standards in the pepper industry, The new material CRI-Mako Ntoos is mildly pungent and can be substituted for tomato in some dishes.

Groundnut

Groundnut is an important oil seed crop in Ghana due to its nutritional qualities and industrial raw material potential. The devastating effects of the *Rosette virus* has been a problem in the cultivation of the crop. The four (4) genotypes which were released in March 2005 were selected from an original quantity of 40 accessions received from the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in the early 1990s. The significant characteristic of all four genotypes is their tolerance to the rosette virus and *Cercospora* leaf spot.

Soybean

The two soybean varieties released in March 2005 are for both domestic and industrial use. Both lines are introductions from the International Institute of Tropical Agriculture (IITA), Nigeria and were among ten (10) entries received. The lines outyield existing released varieties and are moderately to totally resistant to most diseases.

Crop varieties officially released in Ghana in 2005.

Institution of release	Crop	Clonal no. or name	Local name of the variety	Cycle	Attributes
Crops Research Institute, Fumesua Kumasi Ghana	Groundnut	RMP 12	CRI-AZIVIVI	89–93 days	• High Yielding (2.9 t/ha • Resistant to *Rosette virus* and *Cercospora* leaf spot, • Bold seed (suitable for confectionery) • Drought resistant • High iron content 4–22+0,04 • High protein (28.3%),
		MDR-8-19	CRI-GENKAA	91–95 days	• High yielding (2.5 t/ha) • Resistant to *Rosette virus* and *Cercospora* leaf spot • High shelling percentage (76%) • Drought tolerant • High oil content (51.13%)
		M578-79	CRI-NKOSUOR	94 days	• High yielding (2.3 t/ha) • Resistant to *Rosette virus* and *Cercospora* leaf spot, • Drought resistant • High calcium (402,6+8,2mg/100g) • High protein (27.53%) • Medium fat content (48,84%) • Medium iron (2,62+0,06mg/100g)
		M576-79	CRI-ADEPA	91–94 days	• High yielding (2.4 t/ha) • Resistant to *Rosette virus* and *Cercospora* leaf spot • High fat content (49,86%) • High energy (595,12 kcal/100g) • High oil content (51,13%)
Crops Research Institute, Fumesua Kumasi Ghana	Soybean	TGX 1830-20E	CRI-NANGBAARE	90–93 days	• Early maturing • Tolerant to virus, Anthracnose and leaf hoppers • Promiscuous nodulation • Moderately resistant to shattering • Tolerant to lodging • Moderately resistant to root knot nematode • High Yielding (2,1 t/ha • Bold seed • High protein (43,0%) • High phosphorus, calcium and iron • Very good soymilk
		TGX 1904-5F	CRI-AHOTO	92–97 days	• Early maturity • Moderately resistant to virus and Anthracnose • High protein and minerals • Promiscuous nodulation • Moderately resistant to shattering • Moderately resistant to lodging • Very good soymilk

Crop varieties officially released in Ghana in 2005. Contd.

Institution of release	Crop	Clonal no. or name	Local name of the variety	Cycle	Attributes
Crops Research Institute, Fumesua, Kumasi, Ghana	Pepper	CRI-CA56	CRI-SHITO ADOPE	60 days (to flowering)	• Fresh yield of 30 t/ha • Short plant height of 48 cm • Stable variety • Pungency-very hot • Average length of fruit without pedicel is 6,52 cm • Average fruit weight is 3,48 gm
		KP N9-14	CRI-MAKO NTOOS	63 days (to flowering)	• Fresh yield of 35 t/ha • Plant height is 54 cm • Stable variety • Pungency is mild • Average length of fruit without pedicel is 11.52 cm • Average fruit weight is 10.88 gm Can be substituted for tomato in most food preparations
Crops Research Institute, Fumesua, Kumasi, Ghana	Cassava	97/4962	CRI-Agbelifiamperi	One year	• High dry matter content • High starch content (24–38%) • Suitable for starch production and gari
		97/4489	CRI-Doku Duade	One year	• High starch content (24.56%) • Suitable for starch production
		97/4414	CRI-Bankyehemaa	One year	• High dry matter • Suitable for bakery products
		97/3982	CRI-Esam Bankye	One year	• Good flour texture • Suitable for High Quality Flour production
Crops Research Institute, Fumesua, Kumasi, Ghana	Sweetpotato	Mogamba	CRI-Otoo	Four months	• Orange-flesh sweetpotato (OFSP) • Medium in B-carotene level (~ 545 ug B-carotene/ 100 g sample) in fresh roots • Excellent when boiled (ampesi) & deep fried (chips) • Good flour products – pastries composite flour for bread • High foliage/biomass production – good for livestock • Preferred by exporters for European and American market
		Kamala Sundari	CRI-Apomuden	Four months	• Orange-flesh sweetpotato (OFSP) • Very high in B-carotene level (~21,000 ug B-carotene/100% sample) in fresh roots • Highly preferred by exporters for European and America markets • Excellent industrial products – beverages, custard, baby-foods, youghurt and concentrates • Local dishes preparation – very good for Mpotompoto
		Hi-Starch	CRI-Hi-Starch	Four months	• White flesh sweetpotato (WFSP) • High starch content (21%) • Mild sweetness • Excellent for *fufu* and *ampesi* (local dishes) • Good quality flour-flour products • High quality sweetpotato starch (HQSPF) • For industrial uses-syrups, alcohol, timber industry, and export • Should be promoted for fufu and industrial starch production
		Mugande	CRI-Ogyefo	Four months	• White Flesh Sweetpotato (WFSP) • Medium level of starch content (12.4%) • Excellent for ampesi (boiled) and deep-fried (chips) • Produces huge amount of biomass/foliage, good for livestock and a weed control crop
	Yam	KUP2000/001 2000 (2)001	CRI-pona CRI-Kukrupa		• High and stable yielding with excellent culinary aroma, texture and taste • Multiple tubering • Suitable for export and local market
		TDr 89/02665	CRI-Makrongpona	7 to 8 months	• Early maturing • Suitable for local and export market • Roots are mealy all year round
University of Cape Coast	Cassava	UCC 505	Cape Vars Bankye	9 to 12 months	• Highly preferred for local dishes *fufu ampesi* • For flour • Suitable for industrial starch • Roots are mealy for short period
		UCC 504	Bankye Botan	12 to 15 months	• Recommended for local dishes *gari, agbelima, kokonte* • Flour for bread and pastries • Suitable for industrial starch

Isaac F. Jackson *Deputy Director of Agriculture, Directorate of Crop Services MoFA, PO Box M 37 Accra, Tel +233 21 665066* cropser@ghana,com

ECOWAS playing the leading role in the process of harmonization of seed rules and regulations in West Africa

Regional workshop for validating the technical document of the regulatory framework for crop varieties evaluation and release, seed control, and certification in West Africa

Norbert G. Maroya

Context

ECOWAS (Economic Community of West African States) agricultural policy (ECOWAP) adopted by Summit of ECOWAS Heads of State and Government held in Accra on 19 January 2005 defining for all ECOWAS member countries the vision and objectives of West Africa in terms of agricultural development, The ECOWAP is articulated around three complementary axes of intervention, namely (1) Improvement of the productivity and competitiveness of agriculture, (2) Implementation of the intra-community trade regime, and (3) Adaptation of the external trade regime according to the specific circumstances of the agricultural sector. One of the key components of the first axis of intervention is the adoption and the implementation of common regulatory frameworks for ensuring fair competition between agricultural input producers and dealers while protecting farmers and consumers against abuses and dangerous practices.

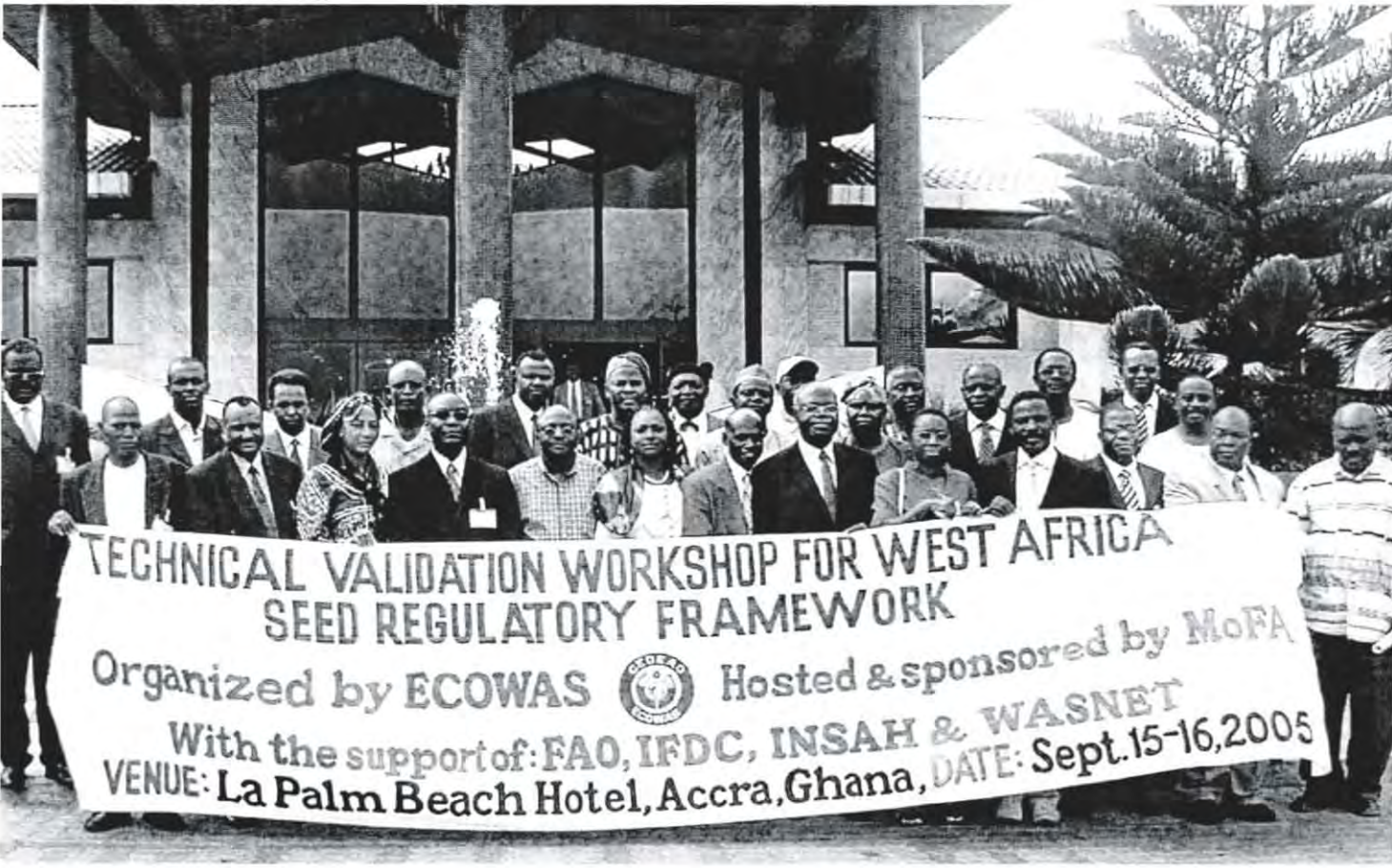
In the process of implementing its agricultural policy (APU), the Economic and Monetary Union of West Africa (UEMOA) initiated, with the support of the Food and Agriculture Organization of United Nations (FAO), the International Center for Soil Fertility and Agricultural Development (IFDC) and the West Africa Seed and planting Materiel Network (WASNET), the harmonization of the national seed regulatory frameworks in its member states in January 2004. Based on the conclusion and recommendations of its first regional workshop held from 27–29 January 2004 in Dakar (Senegal), UEMOA proposed two documents on a common and harmonized regulatory framework for the control and certification of seeds and a framework for crop varieties evaluation for a common regional catalog for eleven crops species. These two documents were validated by experts from the UEMOA member States in Lomé, Togo, on 25–26 November 2004. Subsequently, the need arose to extend the UEMOA initiative to cover all the 15 countries of ECOWAS after the adoption of its agricultural policy (ECOWAP).

Since seeds are one of the most important agricultural inputs whose commercialization has been impeded by unreasonable regulations both at national and sub-regional levels, there is a real need to harmonize seed regulations in ECOWAS zone so that movement of seeds will be facilitated within the subregion. Therefore, harmonization of seed regulations will be a big step forward in the promotion of the agricultural sector in line with the ECOWAP. To do so, the two technical documents prepared by consultants and validated in Lome by UEMOA member countries will be examined during a regional workshop by the seed experts from ECOWAS member states which are not in UEMOA so that they will give their inputs to the documents. It will be then validated again by all the 15 member states of both UEMOA and ECOWAS for final adoption at the meeting of Head of States by ECOWAS.

This report is given the summary of the two-day regional workshop on validating the technical documents of the regulatory framework for crop varieties evaluation and release, seed control, and certification in West Africa held in Accra from 15–16 September 2005.

Opening ceremony

The meeting was declared opened by the Honorable Minister of Food and Agriculture of Ghana, represented by the Chief Director of the Ministry of Food and Agriculture (MoFA). Also present at the opening ceremony were the Assistant Director-General &



Participants at the ECOWAS regional workshop on seed.

Regional Representative of the FAO for Africa and the Chief of Party, MISTOWA Project of IFDC. The opening speeches are in annexes to this report.

The meeting which was planned for the non-UEMOA member states of ECOWAS was attended by the following member countries: the Gambia, Ghana, Guinea, Nigeria, and Sierra Leone. Guinea-Bissau, a member of UEMOA, also attended this workshop.

The following technical partner institutions were also in attendance:

- United Nations Food and Agriculture Organization (FAO)
- West Africa Seed and Planting Material Network (WASNET)
- Africa Rice Center (WARDA)
- African Seed Network (ASN)
- African Seed Trade Association (AFSTA)
- International Centre for soil Fertility and Agricultural Development (IFDC)
- Permanent Inter State Committee for Drought Control in the Sahel (CILSS)
- International Institute of Tropical Agriculture (IITA)

UEMOA and ECOWAS also attended this meeting.

Bureau of the workshop

In the absence of Niger (Country of actual Chairmanship of ECOWAS), Ghana was elected chairman, with Nigeria and The Gambia as rapporteurs.

Organization of the workshop

Two sets of documents previously validated by UEMOA member countries were presented on:

- "Regulatory framework for crop variety evaluation, release and cataloging"
- Standards (field and laboratory) for "Seed certification and control "

Following discussion of the documents in plenary, the workshop broke up into two working groups based on the two sets of documents.

Outcome of deliberations

Following exhaustive discussions in the working groups, the reports of the two groups were presented in a final plenary session where they were amended and adopted. The two reports will be improved by the consultants for the coming workshop involving both UEMOA and ECOWAS members states seed experts.

Major conclusions and recommendations

The meeting recommends that:

- The English versions of all the documents submitted by the consultants must be re-edited in conformity with standard wording
- All member countries take immediate steps to establish functional National Seed Committees (Council)
- All member countries must establish functional Varietal Release Committees
- All member countries must take steps to establish functional quality control and certification systems
- For all crop varieties, seed certification should be of both general and specific standards
- In root and tuber crops (cassava and yam) and millet, there was no sufficient information provided for characterization. The consultant should be provided with such information from member countries and the international research centers to complete the document.

ECOWAS will contact the respective country and international research centers in this regard.

Way forward

This harmonization process will continue with all 15 ECOWAS member countries to consider and technically validate the documents for adoption before the end of 2005. The technical partners shall meet after this workshop and plan together with ECOWAS and UEMOA how to organize the coming workshop.

Norbert G. Maroya WASNET Regional Coordinator, PO Box 9698 KIA Accra, Tel/Fax: +233 21 780714 Email n.maroya@cgiar.org

Minutes of the meeting of the technical partners after the workshop for validating the technical documents of the regulatory framework for crop varieties evaluation and release, control and certification in West Africa

Norbert G. Maroya

1. Dr J. Q. Subah, (ECOWAS) President
2. Mr Norbert Maroya (IITA/GTZ), Rapporteur

Members:

3. Dr Kolado Bocoum (UEMOA)
4. Dr Robert G. Guey (FAO)
5. Dr Georges Dimithe (IFDC)
6. Dr Baffour Badu-Apraku (IITA)
7. Dr Amadou M. Beye (ASN)
8. Mr Paul Thérence Senghor (Consultant)
9. Mr Justin Rakotoarisaona (Consultant/AFSTA)
10. Dr Boubacar Diallo (INSAH/CILSS)
11. Prof Gbolagade B. Ayoola (IFDC-MIR)

Agenda

1. Matters arising from the last two-day meeting in Accra
2. The way forward:
   - Documentation of the Accra workshop
   - Preparation of the next workshop
   - List of activities and assignment of responsibilities
3. Timing for the activities toward the workshop
4. Any other business

Matters arising from the Workshop held 15–16 September 2005 in Accra

Seed law harmonization in the 9 CILSS member countries

Dr Boubacar Diallo informed the meeting that the harmonization process in the nine countries of CILSS is progressing as scheduled. He said that after the national workshops in all the member countries of CILSS to popularize the standards for certification and quality control, a regional workshop is planned to be held from 16 to 18 November 2005 for the review/validation of the legal instruments.

Recommendations

Because member countries of CILSS (except for 2), and UEMOA are all members of ECOWAS, it is absolutely important that the same standards for certification and quality control are used.

Therefore:

- A dialog should be immediately initiated for better convergence and synergy between ECOWAS, UEMOA, and CILSS over the processes
- ECOWAS as the larger institution should take the lead and contact UEMOA for a high level participation in the CILSS coming meeting in November, with a view to proposing a merger of the two harmonization processes
- To allow CILSS take into account the outputs of ECOWAS workshop in Accra, the documents from the consultants shall be translated and sent to CILSS before 31 October 2005
- ASN volunteers to provide the French and English translation of all the technical documents sent by the consultants

For better understanding of all the process of harmonization of seed rules and regulations, Dr Georges Dimithe gave a brief summary of the process which brought us to the Accra workshop. He started from the meeting held on 16 June 2005 in Ouagadougou with FAO, UEMOA, INSAH, IFDC and WASNET, He concluded by explaining the technical and financial arrangements for the Accra workshop.

The participants would like to have the documentation early to study it and for better contribution during the upcoming workshop to avoid complaints from the participants as was the case in Dakar (January 2004), Lomé (November 2004), and Accra (September 2005).

The two consultants were requested to make all the corrections and send their respective reports by the end of September 2004. To assist Mr Paul T. Senghor (consultant) get the needed information from the member countries to finish his report on time, he has to provide for ECOWAS the list of needed information by Tuesday 20 September. ECOWAS will forward the

request to its member countries through the minister in charge of regional integration.

To facilitate the English translation of the documents, Mr Paul T. Senghor (consultant) was requested to provide standard English terminologies used for Distinction, Uniformity and Stability (DUS).

The consultants should send their report by 30 September whether they receive the needed information or not. They should not wait for the request before sending their report.

The way forward

With regard to documentation from the Accra workshop, the changes made by the participants in the main documents will be highlighted by the consultants.

At the forthcoming meeting involving all 15 ECOWAS member states, only one document clearly differentiating the Lomé and Accra agreements will be presented for each of the two components (certification and quality control and, common catalog).

Preparation of the technical and legal documents: The meeting was also informed that funds from FAO's contributions will serve to support the development of the institutional arrangements and legal framework of the harmonization process. For the sake of consistency and harmonization, the framework should be developed in line with that being reviewed by CILSS. To achieve this objective, as much as possible, the same technical team used by CILSS for the preparation of its technical and legal documents should be used. This work (preparation of the technical and legal documents) should be done under the supervision of IFDC with the assistance of ASN.

For the common catalog, FAO and IFDC have committed funds to cover the full cost of its production by INSAH/CILSS. For this work, it was decided that payment arrangements be made directly between the two institutions and CILSS.

Funding for a regional rice catalog could be possible through WARDA. This information from Dr Inoussa Akintayo of WARDA was reported by Dr Robert G. Guei. It was therefore recommended to link up with the CG centers operating in the region (IITA, WARDA, ICRISAT, IPGRI etc.) to avoid duplication of regional catalogs and to see how best the synergy and complementarities can be efficiently used.

The consultants shall be contracted by IFDC by the end of September 2005. INSAH/CILSS will have a month to finalize the catalog and submit it to ECOWAS by 15 November 2005.

Timing for the activities

The UEMOA and ECOWAS member states workshop is proposed to be held from Wednesday 14 to Friday 16 December 2005 in Lomé, Togo, pending confirmation in the next two weeks by ECOWAS and UEMOA. Lomé was selected in part for (a) the cost minimization opportunity through the use of the ECOWAS Conference facilities and (b) the ease of access both overland and by air.

ECOWAS and UEMOA shall send out the first announcement of this forthcoming regional workshop by 15 October 2005.

Delegates per member country: It was decided that ECOWAS and UEMOA shall invite 3 participants per country comprising :

- Head of Seed Service/or Officer responsible for catalog
- Head of Control and Certification
- Private sector representative

In addition, the civil society shall be represented at the regional level or through nomination by partners.

ECOWAS should officially invite all the technical partners and the donor community.

Funding for the workshop shall be provided by FAO, IFDC, UEMOA, ASN, INSAH /CILSS, and WASNET. The supports from INSAH/CILSS and WASNET are pending the approval of their respective leaders.

To have a clear idea of the cost of the workshop, IFDC is assigned to develop the detailed provisional budget within the next two weeks in collaboration with ECOWAS and send it to the technical partners for their inputs.

The second announcement as well as the sending of the technical documents to the member countries shall be done by 15 November 2005.

For the assessment of the ECOWAS and UEMOA member countries' capacity and needs to effectively implement the regulatory framework, it was decided that WASNET and FAO will work to provide the Terms of Reference for the consultant.

Any other business

Mr Norbert Maroya, WASNET Coordinator informed the technical partners of the organization of the third General Assembly of WASNET to be held from 21 to 24 February 2006 in Accra at La Palm Beach Hotel. He indicated that ECOWAS shall be invited to give a briefing of the harmonization of seed in West Africa.

Dr Amadou Beye, the Technical Coordinator of the African Seed Network (ASN) informed the meeting that they have secured funding with the African Bank of Development (ABD) for need assessment together with FAO in Benin, Burkina Faso, Mali, Senegal, and Côte d'Ivoire.

All the partners expressed their satisfaction with the organization of the workshop and its outcome. They promised to continue with the same commitment for the December workshop in Lomé.

Norbert G. Maroya WASNET Regional Coordinator, PO Box 9698 KIA Accra, Tel/Fax: +233 21 780714 E-mail n.maroya@cgiar.org

Annex I

Regional Workshop on Harmonization of Norms, Control and Certification of Seeds and on A Regional Catalog of Varieties in ECOWAS Member States

15–16 September 2005

Opening Remarks

Dr Mahamed Ibn Chambas
ECOWAS Executive Secretary

It is for me, indeed, a great pleasure to make these few remarks at the opening of this important workshop on the harmonization of regulations, norms, control and certification of seeds taking place in this beautiful city of Accra.

Permit me to give you the true perspective and context within which this workshop is taking placed. Two major initiatives are working together for the integration and development of our countries: NEPAD & ECOWAP.

NEPAD has articulated a continental strategy for Africa's development as spelled out in the CAADP. ECOWAS has been mandated (Yamoussoukro 2002) to coordinate the NEPAD implementation in West Africa.

On 19 January 2005, the Summit of ECOWAS Heads of State and Government adopted ECOWAP defining for all ECOWAS member countries the vision and objectives of West Africa in terms of agricultural development. The very process for the formulation and adoption of ECOWAP was in itself highly participatory, involving all stakeholders in every member state.

The implementation of ECOWAP, therefore, requires the input of the entire regional stakeholders, be they IGOs, producer organizations structured along regional lines, development partners, or economic operators. However, a number of actions also depend on the mobilization of the member states and the stakeholders of the food and agricultural sector at the national level. It is for this reason that the ECOWAS Summit decision when adopting ECOWAP called for the establishment of a Regional Consultative Committee to work with the Executive Secretariat for every aspect of ECOWAP implementation. This Regional Consultative Committee is further made up of Technical Working Groups built around thematic issues. For us in ECOWAS, this workshop is therefore the first meeting of one of several Technical Working Groups for ECOWAP implementation.

IFDC, as leader of the Technical Working Group on the harmonization of regulatory instruments for the marketing of agricultural inputs, deserves special recognition for organizing this workshop. Also, worthy of mentioning here are the FAO, UEMOA, CILSS, FAO, WASNET, IITA, and WARDA all of whom are key partners to ECOWAS in this endeavor.

This workshop aims at addressing concerns in two areas in the Plan of Actions for ECOWAP implementation, namely:

- The improvement of productivity and competitiveness of West African agriculture
- The promotion of the regional market and the improvement of access to the international market for West African agricultural products

For agriculture to become more productive and competitive, it must be modernized. This calls for provision of improved seeds to our farmers, technologies and inputs at affordable price. This can only be done in a well-structured market. Having achieved the first objective (productivity and competitiveness), there is need to gain access to market for our products both internally as well as outside.

Thus the importance of this workshop!

Today's workshop is an extension of work started by UEMOA but is now covering all ECOWAS member states. Already, similar workshops have been organized by UEMOA for its member states in Dakar and Lome.

Today, participants have been invited to examine two sets of technical documents on:

- Control
- Certification

The documents will be presented by consultants in plenary following which the workshop will break up into two working groups for detailed examination of the documents.

At the conclusion of the group work, you will resume again in plenary to examine the conclusions and recommendations of the group report thereby arriving at general conclusions and recommendations from the workshop.

Following Accra, a regional workshop is planned, before the end of the year, for ECOWAS member countries to validate legal instruments to be drafted, on the basis of your recommendations. These legal documents will form the basis of draft harmonized control and certification mechanism for seeds in West Africa to be adopted by the decision-making organs of our Community.

Before concluding these remarks, permit me once again to thank the Honorable Minister for Food and Agriculture of Ghana and through him the Government and People of the Great Republic of Ghana for gladly accepting to host this Workshop.

Permit me also to thank all technical and development partners for their unrelenting support. My special thanks go to all participants who have accepted to come on such short notice to work with us on this very important assignment.

Finally, I welcome you again to the workshop and wish you successful deliberation.

Oloche Anebi Edache

Assistant Director-General/Regional Representative

FAO Regional Office for Africa, Accra, Ghana

I am honored to be here to represent the Food and Agriculture Organization (FAO) at the opening ceremony of this important workshop. I would like to start this address by saying that food is heavily dependent on the seed security of farmers. The overall goal of this workshop and the harmonization process is to improve seed security for farmers in the ECOWAS region.

In order to improve access to the quantity and quality of seeds needed by farmers. Africa should put in place policies and develop the capacities to ensure plant genetic resource conservation and management, seed production and certification. National varietal development programs need to be developed with linkages to regional and international research. National seed rules and regulations should be harmonized at the subregional and regional levels to facilitate seed trade.

Fortunately, in recent years, national and regional strategies are being formulated to harmonize seed laws and legislation.

Several initiatives are now underway on the African continent with support from regional organizations, donors and FAO.

In Southern Africa, the Southern Africa Development Community (SADC) seed security network was established in 2001 to address early warning and seed security measures in the 13 member countries. A protocol has been developed for testing, certification, registration and release of varieties that will lead to a common regional catalog of varieties for improved seed trade and food security.

The Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) is undertaking a similar initiative in 10 East African countries.

I am impressed that here in West Africa, harmonization of seed legislation that started with the 8 UEMOA States in 2001 has progressed rapidly to cover now, all the 15 member States of ECOWAS. I am also pleased to note that a West Africa Seed and Planting Material Network (WASNET) has already been established with funding from the German Government to provide information on seed and seed technology with a view to strengthening local, national, and regional seed industry development.

I have confidence that the ongoing harmonization process when completed, will provide a broader market for seed enterprises and facilitate cross-border movement of seed consignments to alleviate periodic seed shortages that contributes to food insecurity in the subregion.

The process will, without doubt, provide a much more sustainable mechanism and strategy for seed stakeholders in Africa to better foster seed policies that will promote the emerging seed markets and encourage seed trade.

FAO will continue to work closely with ECOWAS, UEMOA, Donors, and all relevant stakeholders on the implementation of harmonized seed policies and the development of the seed sector in the sub-region. After this meeting, another workshop of the 15 ECOWAS

member countries is expected to be organized in December to agree on the legal framework.

Finally, I would like to congratulate the Governments of West African States for their strong support to the process, ECOWAS for this noble initiative, Donors and all stakeholders and the Government of Ghana for hosting this important workshop. I would also like to congratulate the African Union for the priority attention it is giving to the seed sector as exemplified in the decision of the State and Government of the Union at their recent meeting in Sirte, Libya, to promote seed and biotechnology.

I wish you productive deliberations during the workshop.

Annex 2

Regional Workshop for Validating the Technical Documents of the Regulatory Framework for Crop Varieties Evaluation and Relese, Control and Certification in West Africa

Organized by ECOWAS
With the support of FAO, IFDC, INSAH, & WASNET
La Palm Beach Hotel, Accra, Ghana, September 15–16, 2005

Opening Address

Honorable Minister of Food and Agriculture

It is my greatest pleasure to be part of this all important Regional Workshop on Harmonization of Norms, Control and Certification of Seed and on a Regional Catalog of Varieties in ECOWAS Member States.

By the Authority of Heads of State and Governments of ECOWAS, the implementation of Economic Committee of West African States Agricultural Policies (ECOWAP) was adopted in January, 2005. Subsequently, a Technical Workshop Group has been constituted to oversee the harmonization of regulatory apparatus for the marketing of agricultural inputs in the Region and I am very proud and happy that Ghana has been given the honor to host the maiden meeting of the group. On behalf of the Government of Ghana, and on my own behalf, I would like to welcome you all to Ghana and wish you a pleasant stay throughout the period of this workshop.

Mr Chairman, it is a fact that one of the main requirements, if not the only one, needed to achieve increased crop productivity is to place greater emphasis on the development, production, efficient distribution and use of quality seeds and planting materials.

Quality seed is vital to the success of our countries' agricultural development. Since 1959, the seed industry in Ghana has undergone various transformations, all aimed at improving the industry to help achieve national food security and enhance export trade. Fortunately, in Ghana, the Government has borne the responsibility of initiating and promoting the development of the seed sector. With the assistance of our development partners, investments have been made to establish viable foundation.

Mr Chairman, Government now believes that the private sector has a major role to play in the commercial seed industry, Accordingly, the seed industry was privatized in the early 1990s and Government's strategy is to continue to encourage and assist the private sector to systematically assume responsibility for all commercially viable components of the seed industry.

Tax concessions applicable to investments in agriculture are being given to those engaged in the seed industry. The country's Seed Act which was enacted in 1972, ensured that the seed being produced and sold to farmers meets acceptable standard. This Act is now being reviewed to reflect current situations in the country. The seed industry policy of the country is also being reviewed.

Mr Chairman, it is envisaged that these two documents would be legally approved and enforced by the middle of 2006, to give incentives to researchers (both domestic and abroad) to create new crop varieties. Farmers will also have the benefit of being protected from unscrupulous dealers of adulterated and poor quality seeds. At the same time, Mr Chairman, I am happy to inform you that Ghana has a strong Seed Inspection and Certification Division to see to it that quality seed is available for planting. The country also has a well constituted National Variety Release Committee, which has, since 1997, released several varieties of crops including cassava, maize, cowpea, soybean, groundnut, plantain, sweetpotato, yam and chilli pepper which were developed by our research institutes and the Universities.

Mr Chairman, the availability of land is limited globally. However, there is no limit to the rate at which the population is increasing. This situation makes the attainment of self-sufficiency in food production extra difficult and consequently puts pressure on the physical environment and agricultural resource base. What this means is that we should be achieving increased productivity from the same area of land to feed the growing population, using improved seed varieties.

Therefore, to offset deficiencies in food and raw material production, conscious effort must be made to produce and use improved inputs, including improved seeds and planting materials. How can we accomplish such a challenging mission? Inevitably, we need more cooperation among countries in the sub region as well as among countries from other regions. The adoption of ECOWAP is intended to ensure sustainable food security in the region, to rationalize the natural resource base and also ensure decent remuneration for those engaged in agriculture. It is also envisaged that regional integration would be made easy to ensure free movement of persons, goods and services. These movements will, of course, have to be regularized or fall within acceptable standards.

Mr Chairman, I understand that the workshop will be discussing several significant issues including variety evaluation and release, seed inspection and certification. The outcome of these discussions will be very crucial to the future of the harmonization framework of the region, as well as to the world, in terms of seed supply.

Therefore, on this occasion, I would like to wish you successful deliberations and productive participation which can generate a harmonized seed policy and appropriate seed program to be used as guidance for West Africa as well as for the world at large.

With this concluding remarks, I wish to declare this Regional Workshop for validating the technical documents of the regulatory framework for crop varieties evaluation and release, control and certification in West Africa, duly opened.

Once again, I wish you a happy stay in Ghana and a safe journey back home after your meeting.

Remarks by the IFDC representative

I am delighted to be here at this opening ceremony of the technical validation workshop on the harmonization of national seed regulatory frameworks in West Africa.

IFDC is a public, international, non-profit organization dedicated to soil fertility management and agricultural development in developing countries and transitional economies. It was established in 1974 as a center of excellence following the World Food Summit. This was as you recall during a period of crisis—food shortages of the early 1970s were occurring on a worldwide basis, energy shortages were becoming commonplace, and prices of agricultural inputs were increasing rapidly. Adequate supplies of fertilizers were not available to produce food; prices of fertilizer and food skyrocketed. All of these factors put the developing countries at a distinct disadvantage.

It was in this context that IFDC was created to assist the developing countries in solving their food-deficit problems by focusing on the development of fertilizers and fertilizer practices to meet the special needs of their tropical and subtropical climates and soils.

More recently, IFDC has evolved into a multifaceted center with a broadened focus, IFDC's mission today focuses on increasing and sustaining food and agricultural productivity in the developing countries through the development and transfer of effective and environmentally sound plant nutrient technology and agribusiness expertise. To more closely reflect the new thrust, the IFDC Board of Directors in 2001 approved a change in the operational name of the institute from IFDC—International Fertilizer Development Center to IFDC—An International Center for Soil Fertility and Agricultural Development.

In this expanded role, IFDC now works on seed and pesticides procurement and distribution issues as well and in various other agricultural development areas. This explains why, right from the on set, when this seed regulation harmonization process started in 2004 under UEMOA leadership. IFDC through its MIR project was very much involved.

We express our heartfelt appreciation for the partnership we have developed with FAO, WASNET, and INSAH in supporting this process. We strongly believe that it is only through such partnerships that we can develop a common agenda and exchange valuable information, data and experiences in the fight against hunger and poverty to meet the central millennium development goal. Such a partnership offers the opportunity to best leverage our combined resources and creativity,

thereby enabling us to more effectively and efficiently accomplish our goals.

IFDC is delighted to see that this workshop concretizes the needed expansion of the process that began in 2004 to all ECOWAS member states. We congratulate ECOWAS for undertaking this task within the context of the implementation of the common agricultural policy ECOWAP which was adopted in January 2005 by the Authority of Heads of State and Government of ECOWAS. This framework is built on three major axes or pillars. This initiative relates to pillar entitled "Improvement of the productivity and competitiveness of agriculture " and particular in the area focusing on the adoption and the implementation of common regulatory frameworks which would ensure a fair competition between agri-input producers and dealers while protecting farmers and consumers against abuses and dangerous practices.

We are also delighted to see that UEMOA is present in this meeting as well. Indeed, for us to be successful, I am sure we commonly agree that the full commitment and leadership of our two regional bodies and their member States, working hand in hand, is a quintessential requisite.

We are making good progress in this process and this is encouraging. But it is very important to stress that, when a regional regulatory framework will be adopted, the glass will only be half full if it is not going to be fully implemented. The region will continue to be fragmented into national markets and regulation-related constraints will continue to limit private sector investment in seed production and distribution.

Therefore, as we are moving towards the end of the tunnel, I urge the experts to start laying the groundwork for coming up with a workable and effective implementation strategy that will address the countries' capacities and needs for effectively implementing the framework that will emerge from this process. I am sure the donor community that is already providing the needed support to this process will stay on course to ensure that the resources they have been investing in this process should ultimately yield satisfactory dividends. For our part, IFDC pledges its continued support to ECOWAS and UEMOA, and thereby to their member states, as they carry on the difficult task of leading this process to a positive and logical conclusion.

In conclusion, IFDC feels honored to be a part of this development process in West Africa, We fervently hope that together we would make history for the benefits of our farmers. Fellow national expert, as you embark in this validation process, just as was the case for the UEMOA member states, we wish you all a productive and successful workshop.

Biotechnology news

Who is afraid of GMOs?

This article was published by PLANT BREEDING NEW- EDITION 158 of 6 July 2005, An Electronic Newsletter of Applied Plant Breeding; Sponsored by FAO and Cornell University

It is a perversion of the 21st century that while affluent societies continue the quest to slice the fat from their increasingly obese populations, five million children die from hunger each year, and more than 850m people go chronically hungry.

And the irony is, in their superior knowledge, the fatties have put the brakes on possibly one of the greatest hopes to alleviate hunger: genetically modified crops.

Proponents of biotech foods claim tinkering with the genetic make-up of food crops boosts yields: by improving productivity and survival in drought regions; and producing pest-resistant and stress-tolerant crops.

Not only this, biotech could breed much-needed nutrients and vitamins into plants.

In short, crops could be made to grow on poor soil in marginal lands, increasing overall food production, reducing pesticide use and improving the nutritional value to populations.

But while private companies and academics are pushing the boundaries of this particular strand of biotechnology, for consumers and governments, notably in Europe, GMOs have become a byword for bad.

The fatties fear that genetically modified foods, or Frankenstein foods as they are darkly termed, can harm human health. And anyway, they're fat, their crops are bountiful and they absolutely have no need for biotech food crops modified to cope with drought.

In the 1990s, campaigners like Greenpeace and Friends of the Earth succeeded in propagating the line that GM foods should be banned from the food chain because they posed a potential risk to health.

The European media, especially the UK press, sucked the issue up, giving wide coverage to this paper-selling subject. Their column inches often played to a set of reader prejudices: fear of scientific progress; the powerful food industry somehow trying to hoodwink us into consuming risky foods; lack of trust in, and massive suspicion of, an industry that fed BSE contaminated meat into the food chain.

Yet, to date, proof that GM foods could harm human health is absent. There is no evidence that they are bad for consumers, confirms Greenpeace. This confirmation comes despite recent media reports suggesting that the dark king of biotechnology, US firm Monsanto, is involved in a cover-up of key evidence on GM risks.

A Monsanto report is alleged to show that rats fed with Monsanto's GM MON 863 corn developed internal abnormalities, but the health problems were absent from the non-GM rat eaters. The food safety authorities, with the full report before them, have classified the corn as safe for consumption.

But Monsanto's poor handling of this latest controversy, and its absolute refusal to make the report public despite calls across the globe, simply serves to fuel consumer suspicion.

Indeed, over the years, the media unfriendly Monsanto has provided ample fodder for anti-GM campaigners. What irony that the key proponent of GM foods should have done most of all to feed opposition to the technology.

And yet, while the passionate opposition to GM foods has settled around unsubstantiated health issues, the real equation of costs and benefits looks to be an environmental one, And this the rich world should be heeding,

There is now accumulating evidence that GM crops such as corn, soybean, cotton and wheat may be detrimental to ecosystems. This is clearly an issue that must be addressed by governments and industry, through painstaking trials.

Yet at the same time, GM technology may also benefit the environment, by slicing away toxic agricultural pesticides, fertilizer and other soil treatments. As example, recent GM rice trials in China found an 80 per cent reduction in pesticide use by the farmers of GM crops, compared with those using conventional rice varieties.

This flips back to human health. Many farmers suffer through the mishandling of such chemicals, and consumers imbibe the residues.

Thus, while it would be naive and simplistic to suggest that GM foods alone can solve the problem of world hunger, it is more than naive and simplistic to reject this technology so lightly.

In the next 30 years an additional 2 billion people will need food, as agricultural resources are increasingly threatened by depletion, water scarcity and global warming.

What we need are rafts of long-term studies, run independently from industry, to guarantee that GM foods are safe for human consumption, and to investigate the pluses and minuses of their environmental impact.

And for as long as current data suggests there is no apparent risk to health, and world hunger inches close to the one billion mark, the technology is far too valuable to abandon.

The duty of the fatties is to weigh the evidence: before they sign-off crops that can feed more people, in the harshest environments, with scant chemical input.

Global Status of Commercialized Biotech/GM Crops in 2004

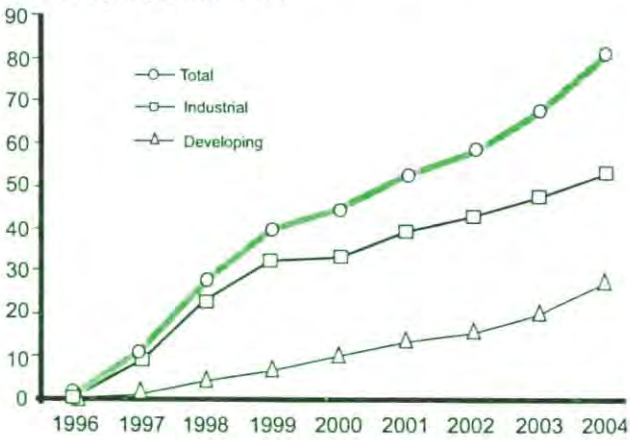
Clive James

This article is extracted from the web at http://www,isaaa,org/kc/bin/ESummary/index,htm

Global Status of Biotech Crops in 2004

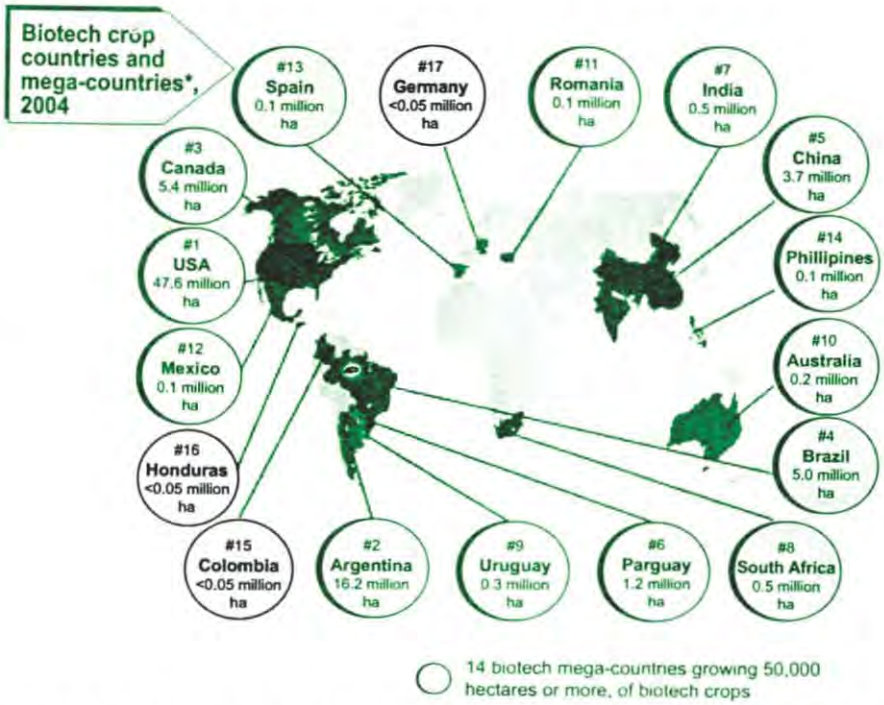
In 2004, the global area of biotech crops continued to grow for the ninth consecutive year at a sustained double-digit growth rate of 20%, compared with 15% in 2003. The estimated global area of approved biotech crops for 2004 was 81.0 million hectares, equivalent to 200 million acres, up from 67.7 million hectares or 167 million acres in 2003. Biotech crops were grown by approximately 8.25 million farmers in 17 countries in 2004, up from 7 million farmers in 18 countries in 2003. Notably, 90% of the beneficiary farmers were resource-poor farmers from developing countries, whose increased incomes from biotech crops contributed to the alleviation of poverty. The increase in biotech crop area between 2003 and 2004 of 13.3 million hectares or 32.9 million acres, is the second highest on record, In 2004, there were fourteen biotech mega-countries (compared with ten in 2003), growing 50,000 hectares or more, 9 developing countries and 5 industrial countries; they were, in order of hectarage, USA, Argentina, Canada, Brazil, China, Paraguay, India, South Africa, Uruguay, Australia, Romania, Mexico, Spain and the Philippines. The continuing rapid adoption of biotech crops reflects the substantial improvements in productivity, the environment, economics, health and social benefits realized by both large and small farmers, consumers and society in both industrial and developing countries.

Global Area (Million Hectares) of Biotech Crops, 1996 to 2004: Industrial and Developing Countries



Source: Clive James, 2004

During the nine-year period 1996 to 2004, global area of biotech crops increased more than 47 fold, from 1.7 million hectares in 1996 to 81.0 million hectares in 2004, with an increasing proportion grown by developing countries. More than one-third (34%) of the global biotech crop area of 81 million hectares in 2004, equivalent to 27.6 million hectares, was grown in developing countries where growth continued to be strong. It is noteworthy that the absolute growth in biotech crop area between 2003 and 2004 was, for the first time, higher for developing countries (7.2 million hectares) than for industrial countries (6.1 million hectares), with the percentage growth almost three



times as high (35%) in the developing countries of the South, compared with the industrial countries of the North (13%). The increased hectarage and impact of the five principal developing countries (China, India, Argentina, Brazil and South Africa) growing biotech crops is an important trend with implications for the future adoption and acceptance of biotech crops worldwide; see full Brief for biotech crop overviews for each of the five countries. In 2004, the number of developing countries growing biotech crops (11) was almost double the number of industrial countries (6) adopting biotech crops.

Biotech crop area by country, crop and trait

Countries that grow 50,000 hectares, or more, of biotech crops are classified as biotech mega-countries. In 2004, there were 14 mega-countries, compared with 10 in 2003, with Paraguay, Spain, Mexico and the Philippines joining the mega-country group for the first time in 2004. This 40% increase in the number of mega-countries reflects a more balanced and stabilized participation of a broader group of countries adopting biotech crops. The 14 mega-countries, in descending order of hectarage of biotech crops, were: USA with 47.6 million hectares (59% of global total), followed by Argentina with 16.2 million hectares (20%), Canada 5.4 million hectares (6%), Brazil 5.0 million hectares (6%), China 3.7 million hectares (5%), Paraguay with 1.2 million hectares (2%) reporting biotech crops for the first time in 2004, India 0.5 million hectares (1%), South Africa 0.5 million hectares (1%), Uruguay 0.3 million hectares (<1%), Australia 0.2 million hectares (<1%), Romania 0.1 million hectares (<1%), Mexico 0.1 million hectares (<1%), Spain 0.1 million hectares (<1%), and the Philippines 0.1 million hectares (<1%).

Based on annual percentage growth in area, of the eight leading biotech crop countries, India had the highest percentage year-on-year growth in 2004 with an increase of 400% in Bt cotton area over 2003, followed by Uruguay (200%), Australia (100%), Brazil (66%), China (32%), South Africa (25%), Canada (23%) Argentina (17%) and the USA at 11%. In 2004, India increased its area of approved Bt cotton, introduced only two years ago, from approximately 100,000 hectares in 2003 to 500,000 hectares in 2004 when approximately 300,000 small farmers benefited from Bt cotton. Whereas growth in Uruguay in 2004 was accentuated by a conservative 2003 adoption rate, biotech soybean now occupies >99 % of the total soybean area in Uruguay, plus a significant increase in biotech maize taking the total biotech crop area above 300,000 hectares. After suffering severe drought for the last two years, Australia increased its total cotton plantings to about 310,000 hectares of which 80%, equivalent to 250,000 hectares, were planted with biotech cotton in 2004, Brazil increased its biotech soybean area by two-thirds from 3 million hectares in 2003 to a projected conservative 5 million hectares in 2004, with another significant increase likely in 2005. China increased its Bt cotton area for the seventh consecutive year; an increase of one-third from 2.8 million hectares in 2003 to 3.7 million hectares in 2004, equivalent to 66% of the total cotton area of 5.6 million hectares in 2004, the largest national cotton hectarage planted in China since the introduction of Bt cotton in 1997. South Africa reported a 25% increase in its combined area of biotech maize, soybean and cotton to 0.5 million hectares in 2004; growth continued in both white maize used for food, and yellow maize used for feed, as well as strong growth in biotech soybean, up from 35% adoption in 2003 to 50% in 2004, whilst Bt cotton has stabilized at about 85% adoption, Canada increased its combined area of biotech canola, maize and soybean by 23% with a total of 5.4 million hectares with 77% of its canola hectarage planted to biotech varieties. The adoption of herbicide

tolerant soybeans in Argentina, which was close to 100% in 2003, continued to climb in 2004 as total plantings of soybean increased, which along with biotech maize and cotton reached an all time high of 16.2 million hectares of biotech crops. In the USA, there was an estimated net gain of 11% of biotech crops in 2004, as a result of significant increases in the area of biotech maize, followed by biotech soybean, with modest growth in biotech cotton which started to peak in the USA in 2004 as adoption approached 80%. In 2004, for the first time, Paraguay reported 1.2 million hectares of biotech soybean, equivalent to 60% of its national soybean hectarage of 2 million hectares. Spain, the only EU country to grow a significant hectarage of a commercial biotech crop, increased its Bt maize area by over 80% from 32,000 hectares in 2003 to 58,000 hectares in 2004, equivalent to 12% of the national maize crop. In Eastern Europe, Romania, which is a biotech mega-country, growing more than 50,000 hectares of biotech soybean, also reported significant growth, Bulgaria and Indonesia did not report biotech maize and cotton, respectively in 2004 due to expiry of permits. Two countries, Mexico and the Philippines which attained the status of biotech mega-countries for the first time in 2004 reported 75,000 hectares and 52,000 hectares of biotech crops, respectively for 2004. Other countries that have only recently introduced biotech crops, such as Colombia and Honduras reported modest growth, whilst Germany planted a token hectarage of Bt maize.

Globally, in 2004, growth continued in all four commercialized biotech crops, Biotech soybean occupied 48.4 million hectares (60% of global biotech area), up from 41.4 million hectares in 2003. Biotech maize was planted on 19,3 million hectares (23% of global biotech crop area), up substantially from 15.5 million hectares in 2003, co-sharing the highest growth rate with cotton at 25% - this follows a 25% growth rate in biotech maize in 2003 and 27% in 2002. Biotech maize is projected to have the highest percentage growth rate for the near term as maize demand increases and as more beneficial traits become available and approved. Biotech cotton was grown on 9.0 million hectares (11% of global biotech area) compared with 7.2 million hectares in 2003. Bt cotton is expected to continue to grow in 2005 and beyond, as India and China continue to increase their hectarage and new countries introduce the crop for the first time. Biotech canola occupied 4.3 million hectares (6% of global biotech area), up from 3.6 million hectares in 2003. In 2004, 5% of the 1.5 billion hectares of all global cultivable crop land was occupied by biotech crops.

During the nine-year period 1996 to 2004, herbicide tolerance has consistently been the dominant trait followed by insect resistance, In 2004, herbicide tolerance, deployed in soybean, maize, canola and cotton occupied 72% or 58,6 million hectares of the global biotech 81.0 million hectares, with 15.6 million hectares (19%) planted to Bt crops. Stacked genes for herbicide tolerance and insect resistance, deployed in both cotton and maize continued to grow, occupying 9% or 6.8 million hectares, up from 5.8 million hectares in 2004. The two dominant biotech crop/trait combinations in 2004 were: herbicide tolerant soybean occupying 48.4 million hectares or 60% of the global biotech area and grown in nine countries; and Bt maize, occupying 11.2 million hectares, equivalent to 14% of global biotech area and also grown in nine countries. Whereas the largest increase in Bt maize was in the USA, growth was witnessed in all other eight countries growing Bt maize, Notably, South Africa grew 155,000 hectares of Bt white maize for food in 2004, a substantial 25 fold increase from when it was first introduced in 2001, Bt/herbicide tolerant maize and cotton both increased substantially, reflecting a continuing trend for stacked genes to occupy an increasing area planted to biotech crops on a global basis.

Another way to provide a global perspective of the adoption of biotech crops is to express the global adoption rates for the four principal biotech crops as a percentage of their respective global areas. In 2004, 56% of the 86 million hectares of soybean planted globally were biotech - up from 55% in 2003. Twenty-eight percent of the 32 million hectares of cotton were biotech crops, up from 21% last year, The area planted to biotech canola in 2004 was 19% of 23 million hectares, up from 16% in 2003. Finally, of the 140 million hectares of maize grown globally, 14% was biotech in 2004 equivalent to 19.3 million hectares, up from 11% or 15.5 million hectares in 2003. If the global areas (conventional and biotech) of these four principal biotech crops are aggregated, the total area is 284 million hectares of which 29% was biotech in 2004, up from 25% in 2003. Thus, close to 30% of the aggregate area of the four crops, totaling over one quarter billion hectares is now biotech. The biggest increase in 2004 was a 7.0 million hectares increase in biotech soybean equivalent to a 17% year-on-year growth, followed by a 3,8 million hectare increase in biotech maize equivalent to a substantial 25% year-on-year growth, which follows a 25% year-on-year growth in 2003.

The global value of the biotech crop market

In 2004, the global market value of biotech crops, forecasted by Cropnosis, was $4.70 billion representing 15% of the $32.5 billion global crop protection market

in 2003 and 16% of the $30 billion global commercial seed market. The market value of the global biotech crop market is based on the sale price of biotech seed plus any technology fees that apply. The accumulated global value for the nine year period 1996 to 2004, since biotech crops were first commercialized in 1996, is $24 billion. The global value of the biotech crop market is projected at more than $5 billion for 2005.

Future prospects

2004 is the penultimate year of the first decade of the commercialization of biotech crops during which double-digit growth in global hectarage of biotech crops has been achieved every single year; this is an unwavering and resolute vote of confidence in the technology from the 25 million farmers, who are masters in risk aversion, and have consistently chosen to plant an increasing hectarage of biotech crops year, after year, after year. The 10th anniversary in 2005, will be a just cause for celebration worldwide by farmers, the international scientific and development community, global society, and the peoples in developing and industrial countries on all six continents that have benefited significantly from the technology, particularly the humanitarian contribution to the alleviation of poverty, malnutrition and hunger in the countries of Asia, Africa and Latin America. On a global basis, there is cause for cautious optimism with the global area and the number of farmers planting biotech crops expected to continue to grow in 2005 and beyond. In the established industrial country markets of the USA and Canada, growth will continue with the introduction of new traits; for example, the significant biotech hectarage planted in 2004 in North America to MON 863 for corn rootworm control (approximately 700,000 hectares of the single/stacked product) and TC 1507 for broader lepidopteran control (approximately 1.2 million hectares). The global number and proportion of small farmers from developing countries growing biotech crops is expected to increase significantly to meet their food/feed crop requirements and meat demands of their burgeoning and more affluent populations. A similar trend may also apply to the poorer and more agriculturally based countries of Eastern Europe which have recently joined the EU, and those expected to join in 2007 and beyond. Finally, there were signs of progress in the European Union in 2004 with the EU Commission approving, for import, two events in biotech maize (Bt11 and NK603) for food and feed use, thus signaling the end of the 1998 moratorium. The Commission also approved 17 maize varieties, with insect resistance conferred by MON 810, making it the first biotech crop to be approved for planting in all 25 EU countries. The use of MON 810 maize, in conjunction with practical and equitable co-existence policies, opens up new opportunities for EU member countries to benefit from the commercialization of biotech maize, which Spain has successfully deployed since 1998. Taking all factors into account, the outlook for 2010 points to continued growth in the global hectarage of biotech crops, up to 150 million hectares, with up to 15 million farmers growing crops in up to 30 countries.

The potential impact of the lead developing countries on global acceptance of biotech crops

Of the 11 developing countries that have already approved and adopted biotech crops to meet their own food, feed and fiber needs and/or to optimize exports, there are five lead countries that will exert leadership and have a significant impact on future adoption and acceptance of biotech crops globally, because of their significant role in biotech crops and generally in world affairs. These five countries are China and India in Asia, Brazil and Argentina in Latin America, and South Africa on the continent of Africa. Collectively, they planted approximately 26 million hectares of biotech crops in 2004, (equivalent to approximately one-third of global biotech hectarage) to meet the needs of their combined populations of 2.6 billion (approximately 40% of global population) which generated an aggregated agricultural GDP of almost $370 billion and provided a livelihood for 1.3 billion of their people, Of the five principal biotech developing countries, China is likely to be the most influential, and what China is to Asia, Brazil is to Latin America, and South Africa is to the continent of Africa. There is little doubt that China intends to be one of the world leaders in biotechnology since Chinese policymakers have concluded that there are unacceptable risks of being dependent on imported technologies for food, feed and fiber security.

The sharing of the significant body of knowledge and experience that has been accumulated on biotech crops in developing countries, since their commercialization in 1996, is an essential ingredient for a transparent, and knowledge-based discussion by an informed global society about the potential humanitarian and material benefits that biotech crops offer developing countries. The five lead biotech crop countries from the South, China, India, Argentina, Brazil and South Africa, offer a unique experience from developing countries in all three continents of the South – Asia, Latin America

and Africa. The collective experience and voice of these five key countries represent a coalition of influential opinion from the South re biotech crops that will also influence acceptance of biotech crops globally. In the near term, the one single event that is likely to have the greatest impact is the approval and adoption of Bt rice in China, which is considered to be likely in the near term, probably in 2005. The adoption of biotech rice by China, not only involves the most important food crop in the world but the culture of Asia, It will provide the stimulus that will have a major impact on the acceptance of biotech rice in Asia and, more generally, on the acceptance of biotech food, feed and fiber crops worldwide. Adoption of biotech rice will contribute to a global momentum that will herald a new chapter in the debate on the acceptance of biotech crops which will be increasingly influenced by countries in the South, where the new technology can contribute the biggest benefits and where the humanitarian needs are greatest – a contribution to the alleviation of malnutrition, hunger and poverty. Global society has pledged to reduce poverty by half by 2015, and if it is to maintain credibility, it must practice what it preaches and deliver what it promises. Reducing poverty by half by 2015 is an imperative moral obligation and is one of the most formidable challenges facing the world today, to which biotech crops can make a vital contribution. It is appropriate that it is the countries of the South, led by China, India, Argentina, Brazil and South Africa, which are exerting increasing leadership in the adoption of biotech crops and have the courage to address issues that will determine their own survival and destiny, at a time when some segments of global society are still engaged in an ongoing debate on biotech crops that has resulted in paralysis through over-analysis.

Clive James, Chair of the Board of Directors of the International Service for the Acquisition of Agri-Biotech Applications (ISAAA); 417 Bradfield Hall, Cornell University, Ithaca NY14853, USA.

International meetings and seed events

Books

Plant Diversity and Evolution: Genotypic and Phenotypic Variation in Higher Plants

Edited by Robert J. Henry
Oxford University Press
0851999042, hardback, 340 pages

Description

An understanding of plant diversity at both the genome and phenome level is important for both biodiversity conservation and plant breeding. Recent advances in genomics have also resulted in a growth of the subject of plant functional genomics. This book brings these areas together, by reviewing aspects of plant evolution as it relates to variation in plant genomes and associated variations in plant phenomes. Topics covered include chloroplast and mitochondrial genomes, reticulate evolution, Polyploidy, population genetics within a species, the evolution of the flower, diversity in plant cell walls and in secondary metabolism, and the importance of plant diversity in ecology and agriculture, Contributors include leading authorities from Europe, the US, Australia, and New Zealand.

Product details

340 pages; 47 line illus, 0-85199-904-2

About the Author(s)

Edited by Robert J. Henry, Centre for Plant Conservation Genetics, Southern Cross University, Australia

Flower Seeds: Biology and Technology

Edited by Miller B. McDonald and Francis Y. Kwong

Oxford University Press

0851999069, hardback, 384 pages

Description

This book has been written to provide a unique, much-needed resource of information on the biology and technology of flower seeds. The floral industry represents a significant proportion of agricultural income in several developed countries, particularly the US, Netherlands, and Japan, The diversity of flower seeds, as well as their form, function and biology, has hitherto daunted the production of a comprehensive treatment of the topic. However, in this volume, international authorities from academia and industry have been sought together to provide a comprehensive reference resource for both practitioners and students of seed science and technology and of ornamental horticulture.

Product details

384 pages; 48 color plates, 30 halftones; 0-85199-906-9

About the Author(s)

Edited by Miller B. McDonald, *Department of Horticulture and Crop Science, Ohio State University*, and Francis Y. Kwong, *PanAmerican Seed Company, West Chicago*

Abiotic Stresses: Plant Resistance Through Breeding and Molecular Approaches

Edited by Muhammad Ashraf, BSc, MSc, PhD
Professor and Head, Department of Botany, University of Agriculture, Faisalabad, Pakistan
Philip John Charles Harris, BSc, PhD, CBiol, FIBiol
Professor of Plant Science, School of Science and the Environment, Coventry University, Coventry, United Kingdom

2005. Haworth Press

Abiotic Stresses explores innovative methods for breeding new varieties of major crops with resistance to environmental stresses that limit crop production worldwide. Experts provide you with basic principles and techniques of plant breeding as well as work done in relation to improving resistance in specific important world food crops. This book supplies extensive bibliographies at the end of each chapter, as well as tables and figures that illustrate the research findings.

Abiotic Stresses is divided into two sections, In the first section, you will find:

- the general principles of breeding crops for stress resistance
- genetic engineering and molecular biology procedures for crop improvement for stress environments
- data on genome mapping and its implications for improving stress resistance in plants
- information about breeding for resistance/ tolerance to salinity, drought, flooding, metals, low nutrient availability, high/low temperatures

The second section of this timely resource focuses on the efforts of acknowledged specialists who concentrated their efforts on important individual crops, such as:

- wheat
- barley
- rice
- maize
- oilseed crops
- cotton
- tomato

This book fills a niche and interface in the available literature as it deals with all of the major stresses from a perspective of crop breeding, covering the latest advances in molecular breeding technology. Abiotic Stresses will help scientists and academics in botany, plant breeding, plant environmental stress studies, agriculture, and horticulture modify and improve breeding programs globally.

Setting breeding objectives and developing seed systems with farmers – A handbook for practical use in participatory plant breeding projects

Editors: Anja Christinck, Eva Weltzien and Volker Hoffmann

Contributing authors: Eva Weltzien, Kirsten vom Brocke, Louise Sperling, Fred Rattunde, Kirsten Probst, Volker Hoffmann, Mohan Dhamotharan and Anja Christinck

Overview

Setting objectives and priorities is a crucial component of successful breeding programs as it determines the future course of action, maximizes chances for success and the impact achieved, and clarifies roles and responsibilities of partners.

A participatory plant breeding (PPB) program requires detailed and holistic understandings of the needs of the specific user groups it seeks to serve. This includes knowledge of the crop traits required for adaptation to prevalent agroecological conditions, the local production and seed distribution systems, and the quality requirements for each target group. Effectively setting priorities through assessment of key farmers' needs has been one of the primary reasons for success from farmer participation in breeding programs.

However, methodologies on how to effectively work with farmers on setting objectives for a PPB program have only occasionally been described. This book is intended to help fill this gap.

This book provides frameworks for description and analysis of key topic areas. It provides a range of methods, approaches and communication tools for breeders and farmers to work together to identify target environments and user groups, analyze production and seed systems, identify key traits and set priorities. Furthermore, it offers practical advice on approaches for planning and implementing both participatory breeding and seed system development activities, summarizing practical experiences gained in PPB projects to date.

This book results from years of fruitful collaboration between PPB practitioners and communication experts that unite social and natural science perspectives. Basic concepts and methods for participatory plant breeding are outlined in ways that facilitate direct application.

The book provides valuable insights not only for plant breeders but also development workers who seek to encourage farmer innovations with regard to variety development. Biodiversity specialists involved in *in situ* management of plant genetic resources, as well as educators and trainers in the above mentioned fields will find useful tools and overviews.

Availability

The book has been published in cooperation with Margraf Publishers, Scientific Books (Weikersheim, Germany) and CTA (Technical Centre for Agricultural and Rural Cooperation, Wageningen, The Netherlands).

There are several possibilities for you to get the book:

1. Individuals from ACP member states (Africa, Caribbean, Pacific) can order a FREE copy from CTA. Please contact the CTA website for details (www.cta.int). The book may not yet be listed in the catalog; in that case you could contact CTA by e-mail (cta@cta.int).
2. If you are not from an ACP member state, you have the possibility to buy the book from CTA's commercial distribution office, or from the main publisher (Margraf Publishers).
3. The regular price (from 1 October onwards) will be 28 EUROs plus shipment. For bulk orders, Margraf Publishers offer a 25% price reduction if you order 5–9 copies to be sent to one address, and a 30% price reduction if you order more than 10 copies. Please contact the website (www.margraf-publishers.com) or get more information by e-mail (info@margraf-verlag.de)

Meetings, Courses, and Workshops

21–24 February 2006
The third General Assembly of the West Africa Seed and Planting Material Network

After Bangul, The Gambia in January 2002 and Dakar Senegal in February 2004, the private and public seed representatives of the 12 West African member countries of WASNET decided to meet in Accra, Ghana to share and discuss the achievements and improvements in the national and regional seed sectors in West Africa, This regional event is scheduled to be held in Accra from 21 to 24 February 2006 at La Palm Beach Hotel, For more information send an email to wasnet@ghana.com or visit http://www.wasnet.org

13–17 March 2006: Third Meeting of the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety to be held in Curitiba, Brazil.

20–31 March 2006: Eighth Session of the Interim Commission of the Convention on Biological Diversity to be held in Curitiba, Brazil

28–31 March 2006: Sixth annual Congress of the African Seed Trade Association Congress, Entebbe, Uganda from 28 to 31 March 2006. This Congress will provide a forum to discuss the challenges of improving agricultural research and accessing to new technologies and its adoption. It will also be a forum for interaction for seed people to identify new market opportunities and investment prospects. Training on important topics for the seed industry for participants to build their capacity will be part of the program of this congress 2006, for more details , visit http://www.afsta.org

3–7 April 2006: Eighth session of the Interim commission on Phytosanitary Measures to be organized by FAO at Rome, Italy

18–21 April 2006: The 13th Australasian Plant Breeding Conference–Breeding for Success: Diversity in Action, Christchurch Convention Center in Christchurch, New Zealand, For more details, visit http://www.apbc.org.nz

29–31 May 2006: Congress of the International Seed Federation (ISF) to be held in Copenhagen, Denmark, For more details visit www.worldseed.org

2–6 July 2006, Udine (Italy): IX International Conference on Grape Genetics and Breeding, under the auspices of the ISHS Section Viticulture and the OIV, Info: Prof, Enrico Peterlunger, University of Udine, Dip, di Scienze Agrarie e Ambientale, Via delle Scienze 208, 33100 Udine, Italy, Phone: (39)0432558629, Fax: (39)0432558603, email: peterlunger@uniud.it

Grape genetics has aroused a spectacular interest worldwide in recent years and is experiencing a renewal in objectives and strategies. We expect this symposium fosters scientists to exchange their experiences and promotes their cooperation in view of launching the ambitious project of grape whole genome sequencing.

Udine is located in Friuli-Venezia Giulia, the North-Eastern region of Italy, which is becoming a central area of the enlarged European Union. "A vineyard called Friuli" is a known refrain that reminds the strong vocation to viticulture of this region, that produces several of the most appreciated European white vines.

23–28 July 2006. The 9th International Pollination Symposium will be hosted at Iowa State University, in the Scheman Building, part of the Iowa State Center of the Iowa State University campus, The Hotel at Gateway Center in Ames, Iowa will be the headquarter hotel for conference attendees, The official theme of the 2006 International Pollination Symposium in cooperation with Iowa State University and the United States Department of Agriculture Agricultural Research Service (USDA-ARS) is: "Host-Pollinator Biology Relationships - Diversity in Action"

For more information please visit www.ucs.iastate.edu/PlantBee

Submitted by Jody Larson, symposium committee
Iowa State University

jilarson@iastate.edu

7–11 August 2006. OECD annual meeting of Seed Schemes to be held in Salvador de Bahia, Brazil

13–19 August 2006: XXVII International Horticultural Congress, Seoul (Korea) web: www.ihc2006.org

11–15 September 2006. San Remo (Italy): XXII International EUCARPIA Symposium - Section Ornamentals: Breeding for Beauty, Info: Dr, Tito Shiva or Dr, Antonio Mercuri, CRA Istituto Sperimentale per la Floricoltura, Corso degli Inglesi 508, 18038 San Remo (IM), Italy, Phone: (39)0184694846, Fax: (39)0184694856, email: a.mercuri@istflori.it web: www.istflori.it

17–21 September 2006. Cucurbitaceae 2006. Grove Park Inn Resort and Spa in Asheville, North Carolina, USA. Contact: Dr Gerald Holmes, Department of Plant

Pathology, North Carolina State University, Raleigh, NC 27695-7616, 919-515-9779 (gerald_holmes@ncsu.edu) (http://www.ncsu.edu/cucurbit2006)

This meeting continues the tradition of Cucurbitaceae conferences held every four years in the USA. It will include meetings of associated groups including the Cucurbit Crop Genetics Committee, the Cucurbit Genetics Cooperative, the National Melon Research Group, the National Watermelon Research Group, the Pickling Cucumber Improvement Committee, and the Squash Research Group.

1–5 December 2006. The First International Meeting on Cassava Plant Breeding and Biotechnology, to be held in Brasilia, Brazil from 1–5 of December 2006, will be sponsored by the International Society of Food, Agriculture, and Environment of Helsinki, Finland. Its theme is Cassava Improvement to Improve Livelihoods in Sub-Saharan Africa and Northeastern Brazil, Sessions during the meeting will tackle such topics as wild species and landraces to enhance nutritional content, management of reproduction and propagation systems, biotechnology tools and methods for breeding the crop, and conservation of Manihot genetic resources. Proceedings will be published and distributed in March 2007, and will contain all articles presented in the meeting.

For more details, email Dr Nagib Nassar of the University of Brasilia at nagnassa@rudah.com.br or visit the meeting website at http://www.geneconserve.pro.br/meeting/

For New Readers

Please complete and send to the address below:

Name:_____

Position:_____

Address:_____

_____

_____

The Coordinator
West Africa Seed and Planting Material Network (WASNET)
PO Box 9698, KIA, Accra, Ghana;
Tel/Fax: +233-21 765567;
E-mail: wasnet@ghana.com

For E-Mail Access Readers

If you would like to receive the newsletter by e-mail, please send your e-mail address to:

wasnet@ghana.com

Name: _____

Position:_____

Employer/Company: _____

E-mail:_____

Telephone:_____