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Navigating One's Way Through Peanut Innovation Lab Projects in Africa: Opportunities Create Challenges

David Jordan
Department of Crop and Soil Sciences
North Carolina State University

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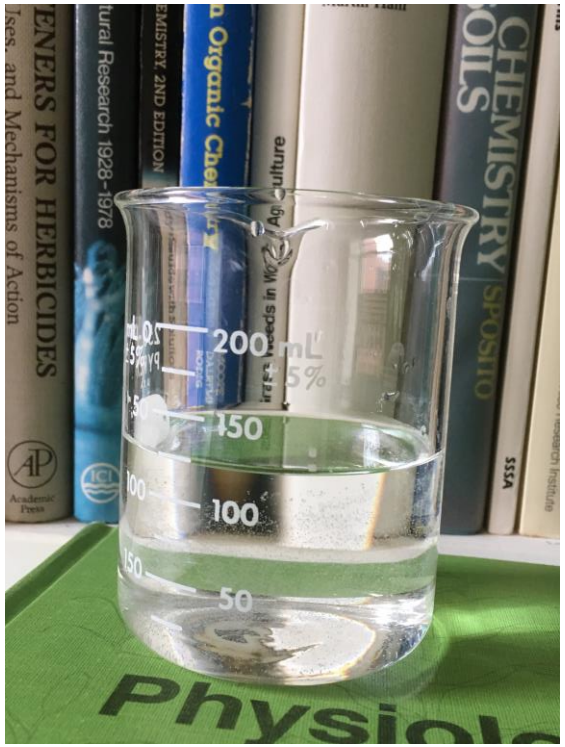
Navigating One's Way Through Peanut Innovation Lab Projects in Africa: Opportunities and Challenges



Half empty or half full? How much does it really matter?

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This audience

And some Epicurean and Stoic philosophers came across him as well and said, "What would this seed-pecking ditherer like to say?"

David Bentley Hart

The speaker

Role of Agriculture

Produce adequate amounts of high-quality foods

Enhance the natural resource base and environment

Contribute to well-being of farmers and their communities

Make farming economically viable

NRC 2010 *in* Crowder and Reganold, 2015

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Seminar Topics

Getting started

Value to US and host country

Quick overview of global peanut production systems

Variety release (*Peanut CRSP*)

IPM manual (*Peanut CRSP*)

PMIL (*Peanut Mycotoxin or Peanut **and** Mycotoxin*)

Brief overview of aflatoxin (US – Africa contrast)

Value chain results from Ghana

Aflatoxin book chapter (assumptions)

Ag Diversification project in Malawi

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International Journey

UNI 323 (STS 323)

World Hunger Day

Church projects in Central America and Mozambique

Farmer to Farmer Exchange Program in Mozambique

Peanut CRSP in Ghana (2 cycles)

EHELD project in Liberia

PMIL (*Ghana Value Chain*, *Southern Africa Value Chain*, *Haiti Value Chain*)

Peanut Innovation Lab (current)

Ag Diversification in Malawi (current)

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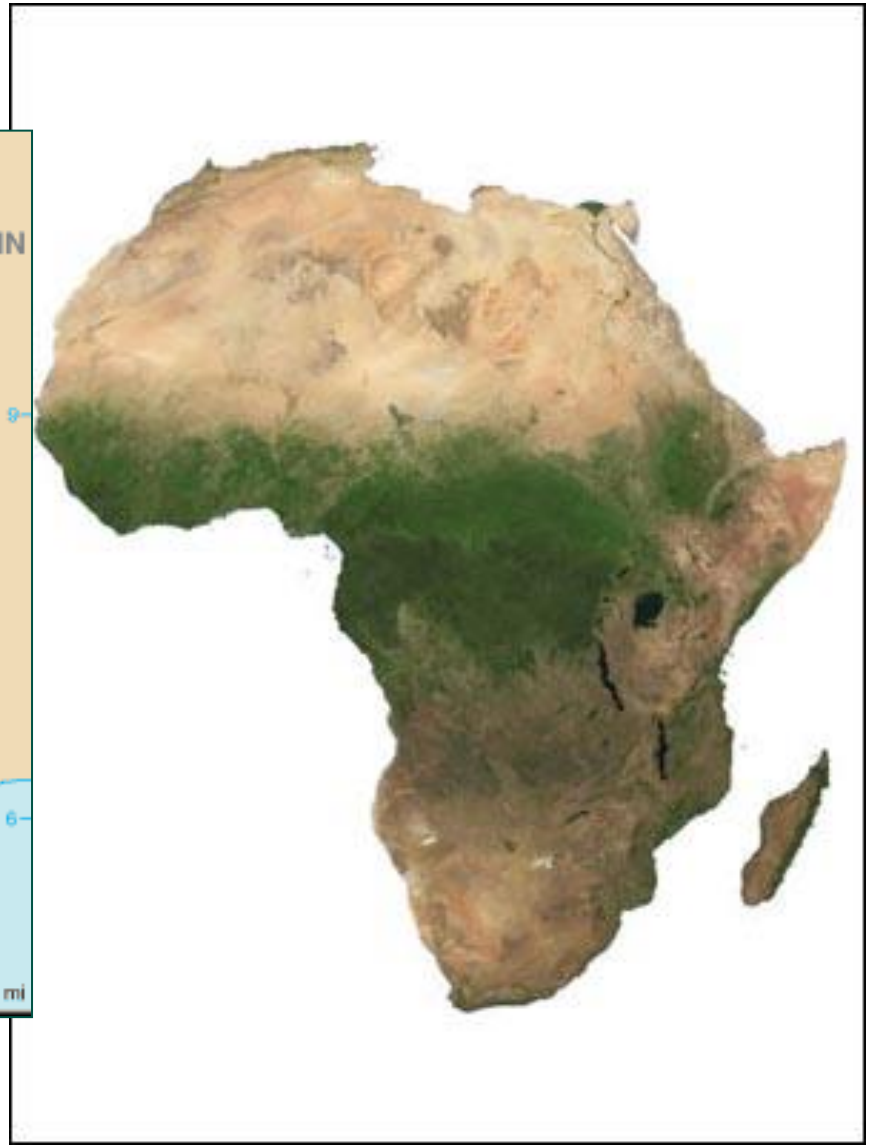

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Value of USAID Projects

Host Country

Operating funds

Professional development

Discovery, verification and delivery of technologies

Recommendations to farmers

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Value of USAID Projects

United States - NCSU

Operating funds

Professional development

Appreciation of budgeting

The bigger picture

Case studies for STS 323

Knowledge of aflatoxin

Getting along with people

Reading books

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Perceptions of Undergraduate Students Regarding Global Hunger[1]

Robert Patterson[2], David Jordan[2], Carla Cave[2], Gary Moore[3], Wendy Warner[3], Emily Sugg[2], Lori Unruh-Snyder[2] and Matthew Vann[2]
North Carolina State University
Raleigh, NC

NACTA
north american colleges and teachers of agriculture
connect | develop | achieve

1) Distribution and transportation
2) Awareness of the problem
3) Improve farmer education
4) Government and politics
5) Population dynamics

Ten years, 20 semester, ~4,000 students

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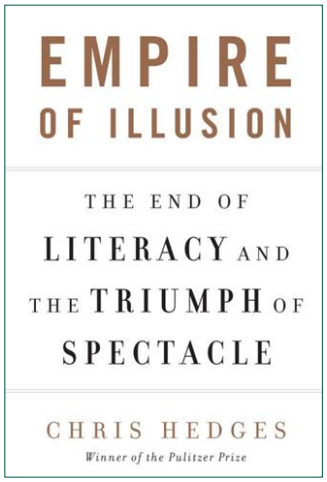

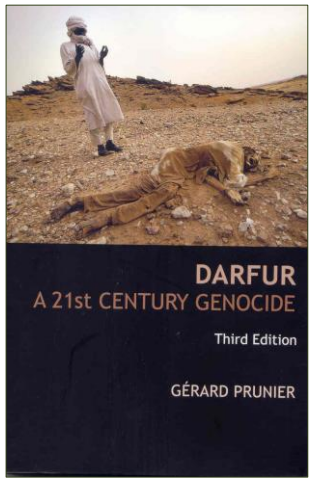

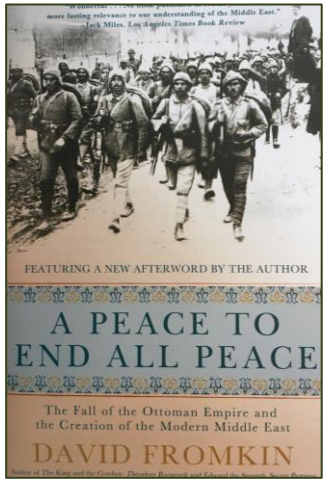

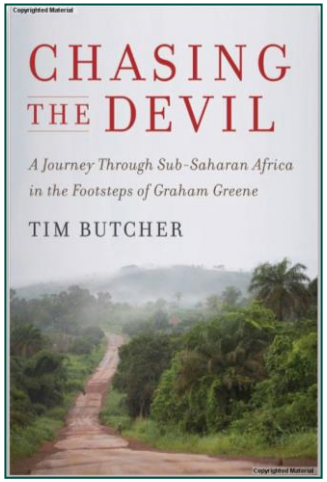

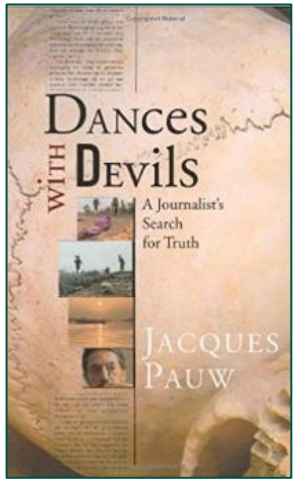

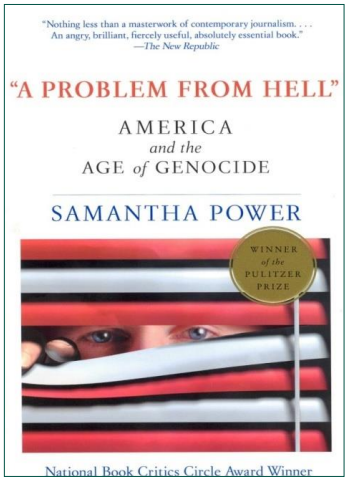

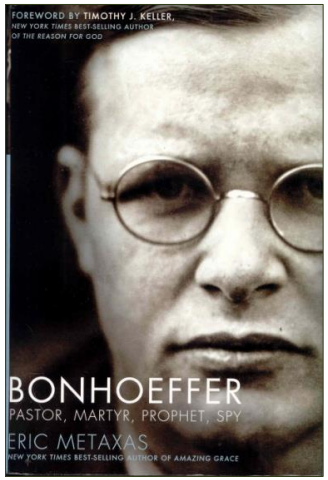

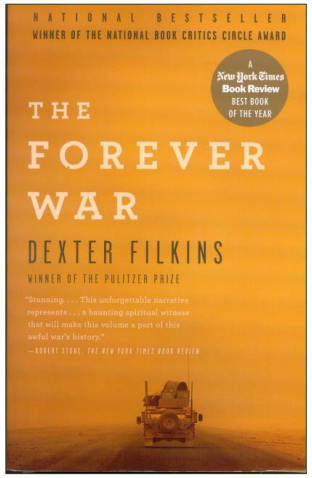

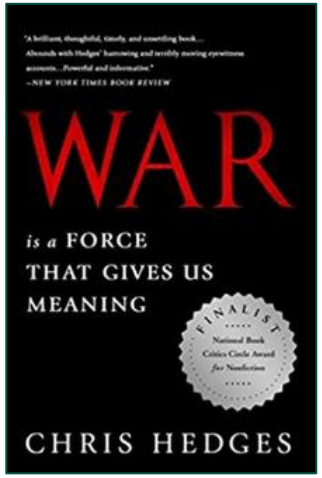

Paper
Laptops
Internet Cafes
Wi-Fi
Facetime
Canada Hat

Apparent draw to somewhat troubling topics

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Value of USAID Projects

Both Partners

Lifelong friends and colleagues

Major and incremental impacts

Practice and application of science

Service

Purpose

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Possible Titles

My $1.4 Million Data Set

Giving Away Your Operating Funds as PI Doesn't Really Help

You Thought NCSU was Getting One Million: How did that Happen?

Wiring Your Personal Money to Africa to Get the Project Going is Not Wise

Really?

It Seemed to be a Good Idea at the Time

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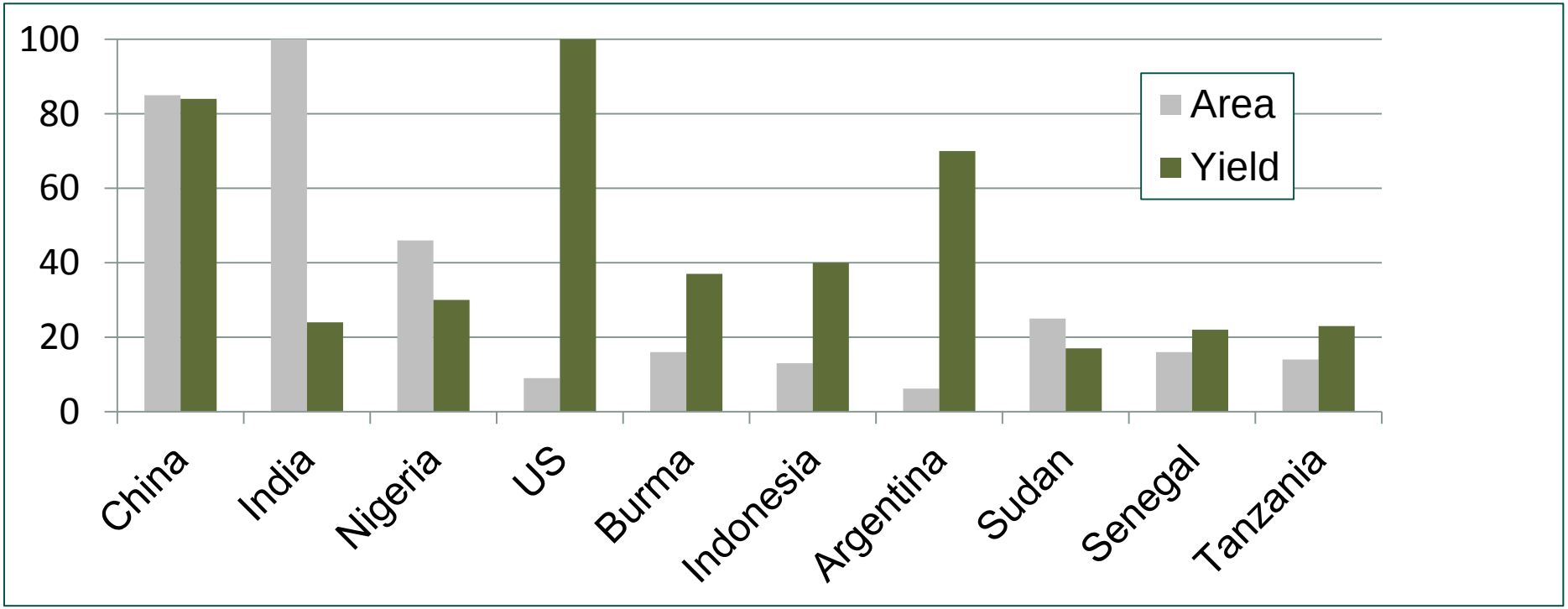
Relative Distribution of Harvested Peanut Land Area (Percent of India) and Relative Yield per Unit Area (Percent of US)



Fletcher and Shi. 2016. An overview of world peanut markets. Pages 267-287 in Stalker and Wilson, eds. *Peanuts: Genetics, Processing, and Utilization*. AOCS Press, Elsevier.

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Essential Elements of Efficient and Sustainable Peanut Production

Crop rotation and sequence

Crop genetics

Stand establishment

Pest management

Fertility

Adequate water

Harvesting capacity

Drying and storing capacity

Transportation and access to markets

Others

Estimated Budgets (% of total) for Peanut Production in US and Argentina

United States		Argentina	
Item	**Percent**	**Item**	**Percent**
Seed	14	Seed	14
Fertilizer	7	Planting	4
Inoculant	1	Herbicides	9
Lime	3	Fungicides	8
Gypsum	3	Spraying	4
Herbicides	8	Digging	4
Insecticides	3	Harvesting	8
Fungicides	13	Transport	8
Scouting	3	Land rent	40
Hauling	4	Administration	1
Dry and clean	14		
Check off	1		
National	1		
Crop insurance	5		
Tractor/machinery	9		
Labor	8		
Interest	2		

Bullen et al. 2016. North Carolina Cooperative Extension Service. AG-331.
Morichetti. 2016. Personal communication, Argentina.

Estimated Budgets (% of total) for Peanut in India and Ghana

India		Ghana	
Input	**Percent**	**Input**	**Percent**
Labor	47	Labor	91
Seed	28	Plowing	9
Fertilizer	16		
Insecticide	2		
Irrigation	4		
Interest	3		

Jangid et al. 2016. Comparative Analysis of Groundnut Growing States in Western India. *Advances in Social Research*. 2:1-6.
Mochia and Abudulai. 2016. Personal communication, Ghana, West Africa.

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Long flights help the transition from US system to Ghana system

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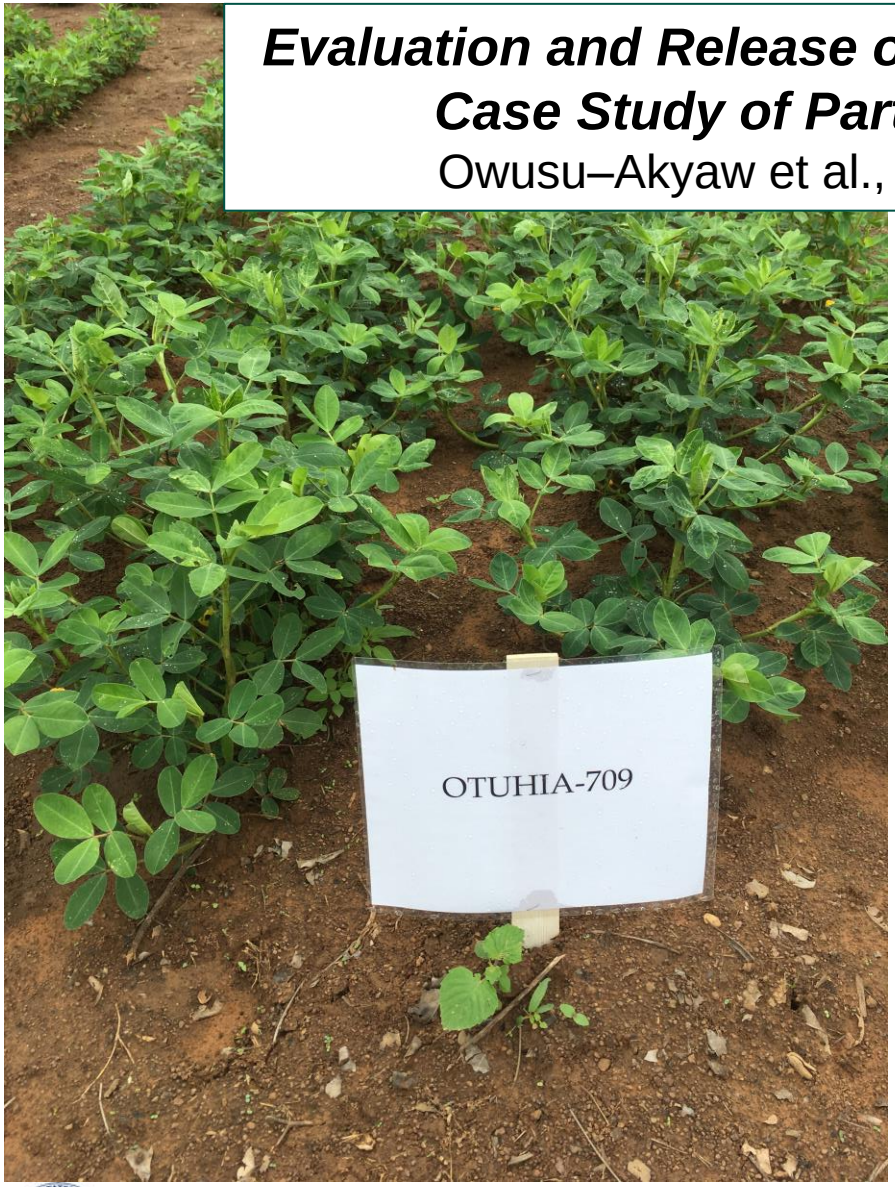
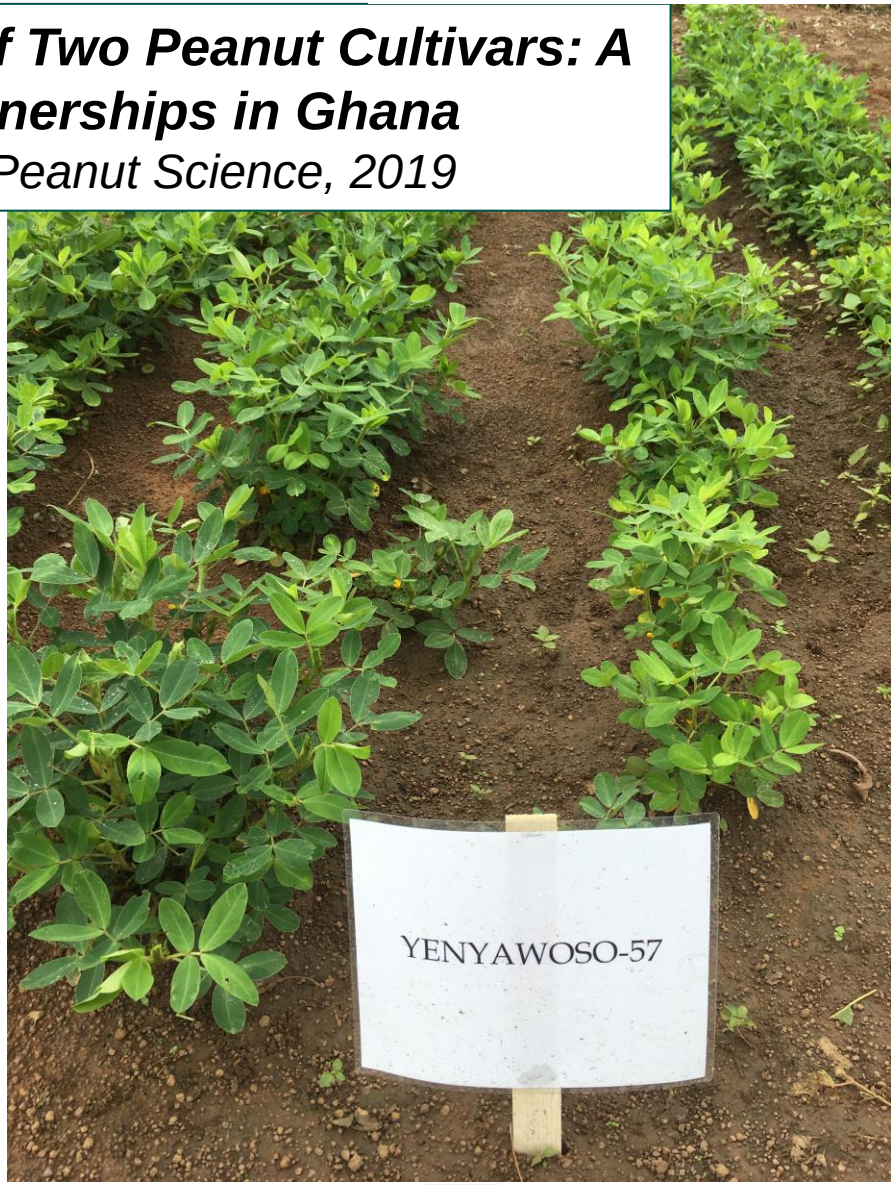
Evaluation and Release of Two Peanut Cultivars: A Case Study of Partnerships in Ghana

Owusu–Akyaw et al., *Peanut Science, 2019*





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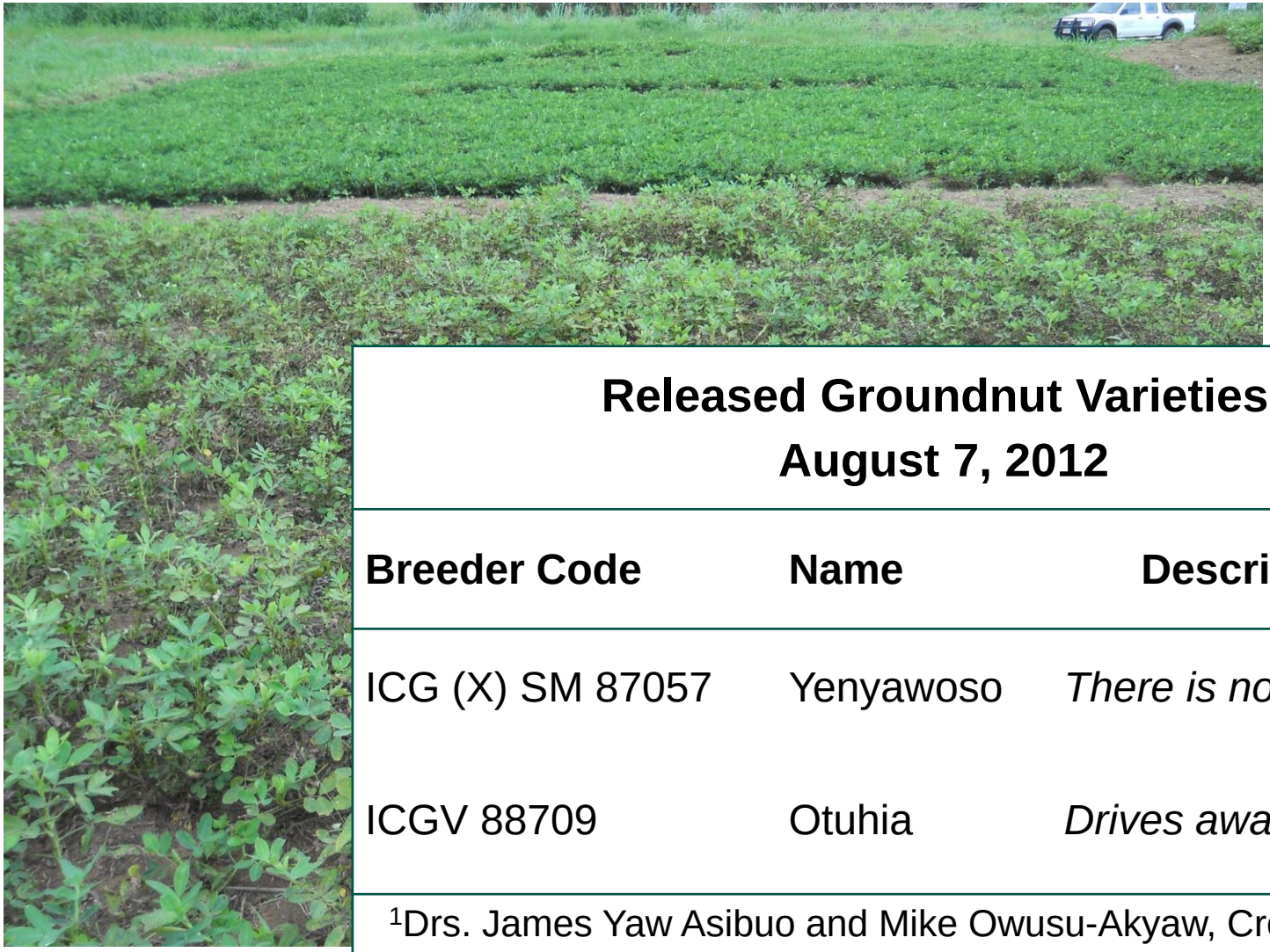

Released Groundnut Varieties[1]
August 7, 2012

Breeder Code	Name	Descriptor
ICG (X) SM 87057	Yenyawoso	*There is no one like you*
ICGV 88709	Otuhia	*Drives away poverty*

[1]Drs. James Yaw Asibuo and Mike Owusu-Akyaw, Crops Research Institute, Kumasi, Ghana

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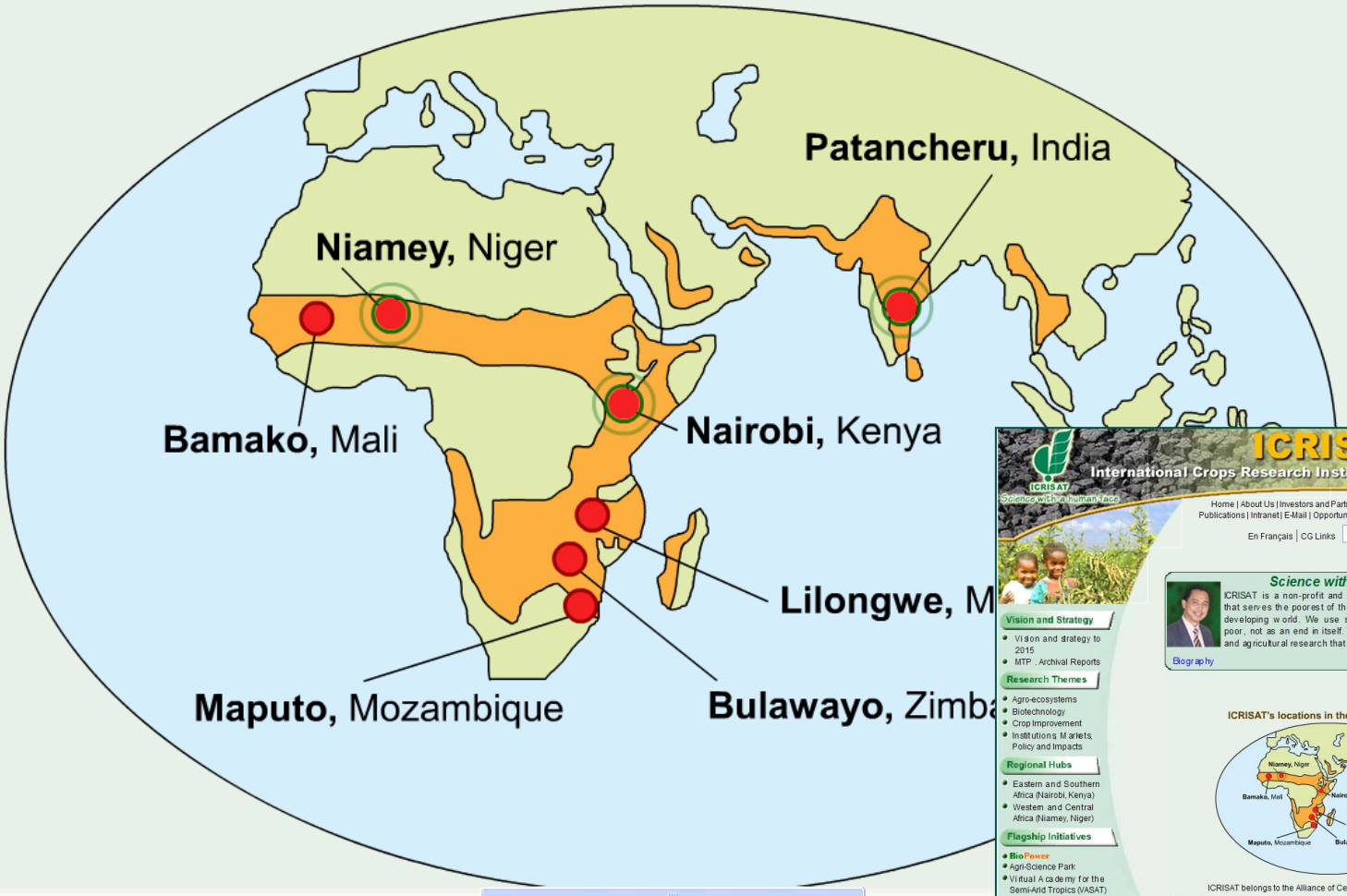
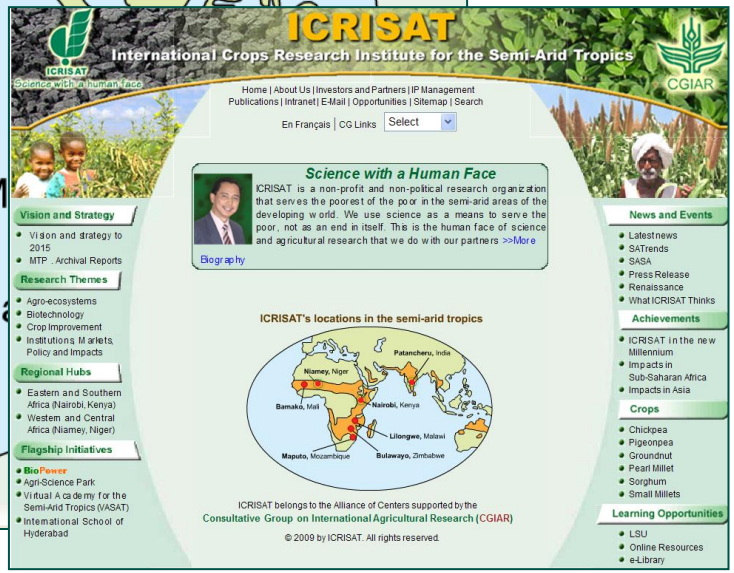
ICRISAT's locations in the semi-arid tropics





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Comparison of agronomic characteristics of the cultivars Otuhia and Yenyawoso to other cultivars available in Ghana in 2010.[a]

Cultivar	Days to 50% flowering	Days to pod maturity	Kernel content	Seed weight	Pod yield
	——— No. ———		%	g/100 seed	kg/ha
Otuhia	27 b	105 ab	71 a	71 a	2,140 b
Yenyawoso	23 d	90 c	72 a	64 c	2,350 a
Adepa	28 ab	106 a	65 b	65 c	1,920 c
FMIX 20-1-45	27 b	104 b	67 b	69 ab	1,900 c
GK 7 High Oleic	29 a	106 a	65 b	67 bc	1,900 c
Konkoma/Chinese	24 c	90 c	59 c	54 d	1,160 d
RRR-MDR-8-16	27 b	106 a	65 b	68 abc	1,940 c
Coefficient of variation (%)	3.3	1.0	4.0	5.2	5.5

[a]Means within a column followed by the same letter are not significantly different at $p \leq 0.05$ according to Fisher's Protected LSD test. Data are pooled over six locations (Atebubu, Derma, Ejura, Kwadaso, Somanya, and Wenchi) in 2010.

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Seed Systems

Purity

Quality

Access

Availability

Delivery

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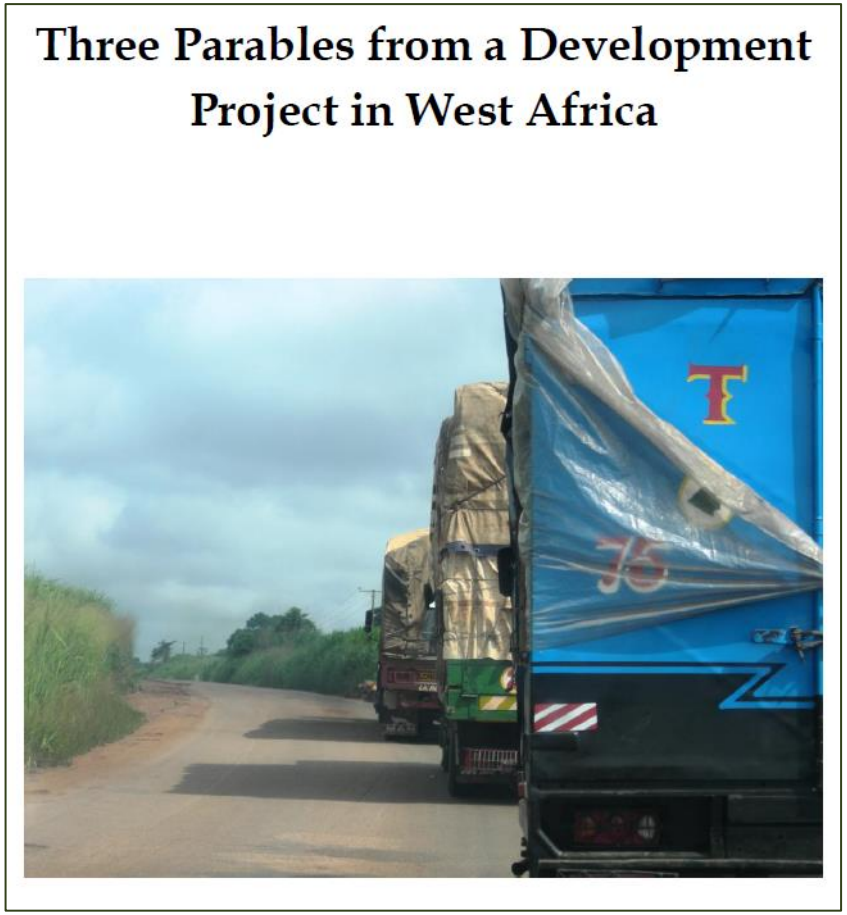
Broader Message and *Fun* with Colleagues



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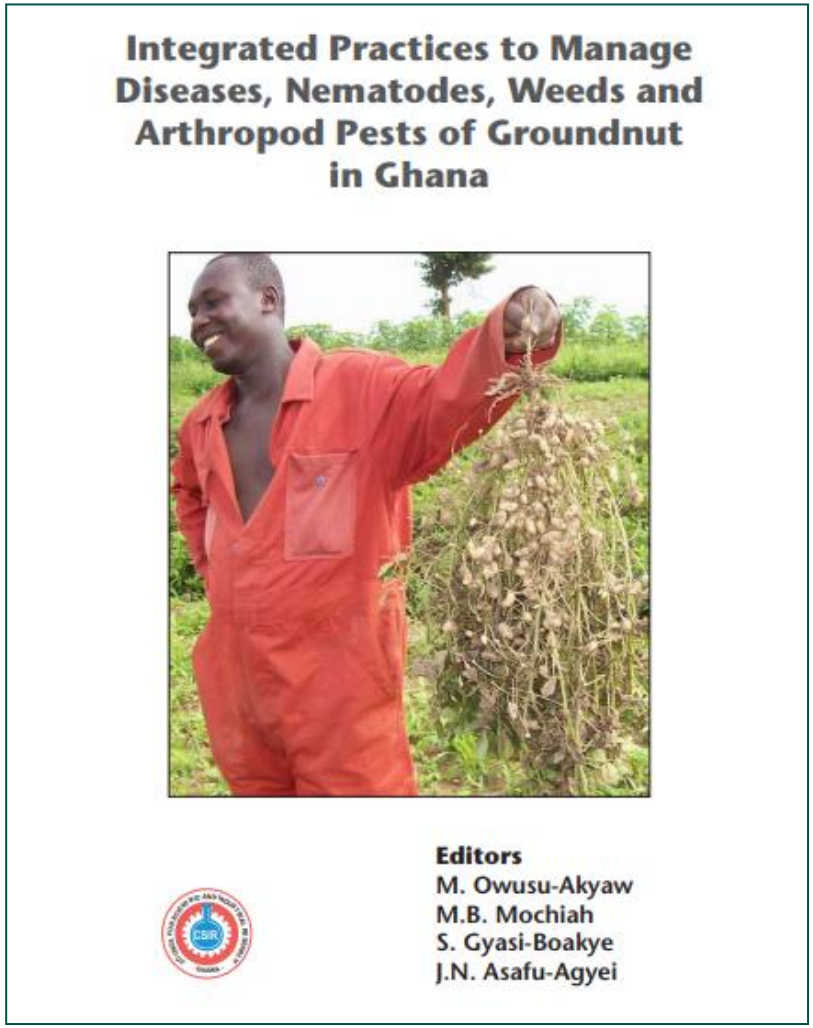
Letting Perfection be the Enemy of the Good?



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CAST® Issue Paper
Number 55
November 2014

The Contributions of Pesticides to Pest Management in Meeting the Global Need for Food Production by 2050

Considering the inevitability of a growing population, cost-efficient food production must increase; with effective policies, proper regulation, and safety training, pesticide use will continue to play an important role in that food production. (Photo from happykanppy/Shutterstock.)

Abstract

The term *pesticide*[1] has been around for centuries, and it describes many different chemicals. The term has also—at times—been maligned and misunderstood. The authors of this publication use extensive data and provide clear examples to establish that pesticide use in agriculture has

- increased crop yield and quality,
- lessened the workload of pest management, and
- improved the prospects for long-term sustainable food production.

This paper gives a brief background about the use of pesticides and a thorough examination of why they have become popular and widely used. Considering the inevitability of a growing population, cost-efficient food production must increase. Intelligent use of pesticides has led to crop management that is more efficient, sustainable, and productive (United Nations 2012). Of course there are controversies and challenges, but with effective policies, proper regulation, and safety training, pesticide use will continue to play an important role in food production.

With a special consideration of catastrophic famines and crop management practices of the past, the authors organize the vast amount of information around several key concepts:

- *Fungicide* use and its impact both in the United States and around the world
- *Herbicide* use, weed management, and higher yields that have resulted from sound weed control practices
- *Arthropod* management involving *insecticide* use, with a consideration of the problems that have occurred

[1] Italicized terms (except genus/species names and published material titles) are defined in the Glossary.

IPM
Prevent
Avoid
Monitor
Suppress

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Pesticide Stewardship on a Global Scale

U.S. ENVIRONME

Agriculture

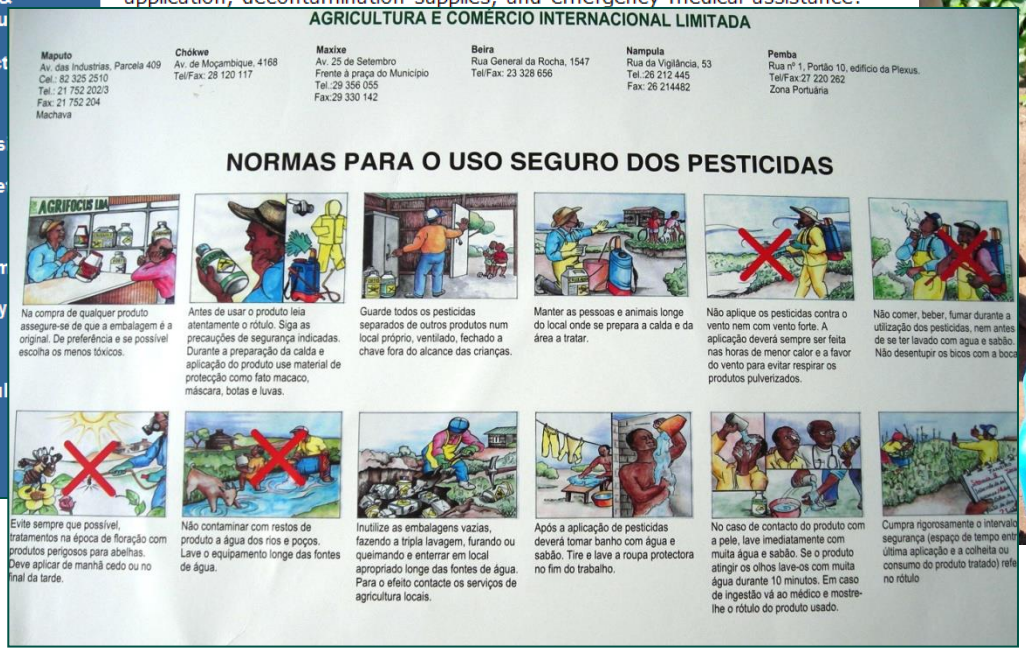
Contact U
You are

Worker Protection Standard for Agricultural Pesticides

- Agriculture Home
- Basic Information
- Where You Live
- Frequent Questions
- Sectors
  - Animals
  - Crops
  - Forestry
  - Nurseries & Greenhou
- A to Z Subject
- Air
- Business Ass
- Health & Safe
- Pesticides
- Site & Equipm
- Sustainability
- Water
- Laws & Regul
- Resources
- Site Map

You will need Adobe Reader to view some of the files on this page. See EPA's PDF page to learn more about PDF, and for a free Acrobat Reader.

EPA's Worker Protection Standard for Agricultural Pesticides (WPS) is a regulation aimed at reducing the risk of pesticide poisonings and injuries among agricultural workers and pesticide handlers. The WPS offers protections to approximately 2.5 million agricultural workers (people involved in the production of agricultural plants) and pesticide handlers (people who mix, load, or apply pesticides) that work at over 600,000 agricultural establishments. The WPS contains requirements for pesticide safety training, notification of pesticide applications, use of personal protective equipm application, decontamination supplies, and emergency medical assistance.



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