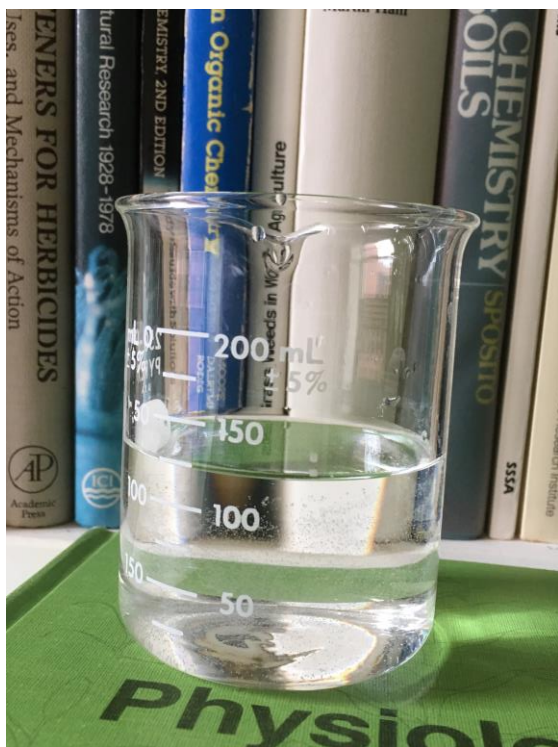


Navigating One's Way Through Peanut Innovation Lab Projects in Africa: Opportunities Create Challenges

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

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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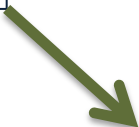
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This audience



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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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



Perceptions of Undergraduate Students Regarding Global Hunger¹

*Robert Patterson², David Jordan², Carla Cave²,
Gary Moore³, Wendy Warner³,
Emily Sugg², Lori Unruh-Snyder² and Matthew Vann²
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

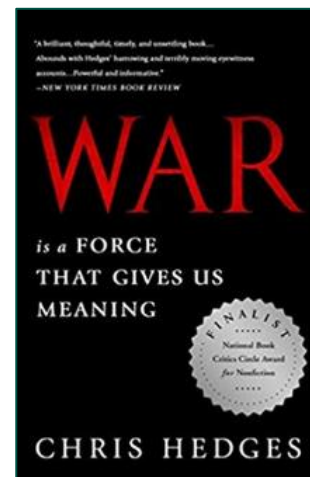
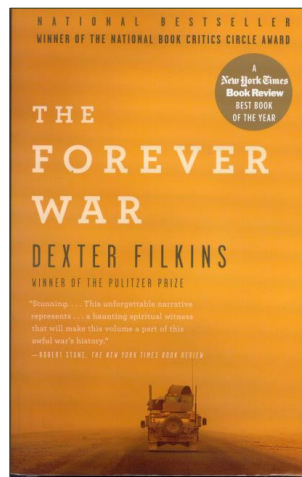
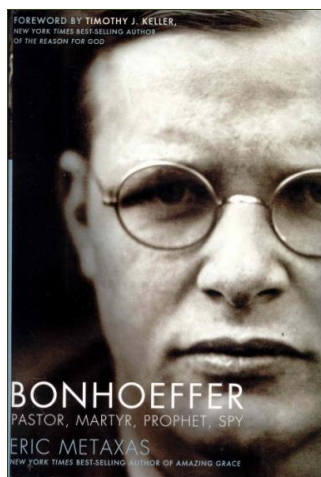
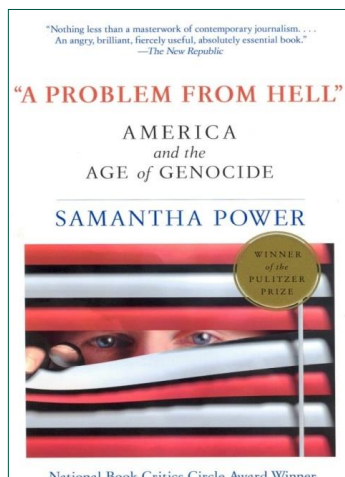
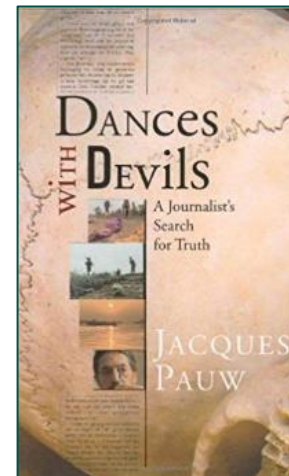
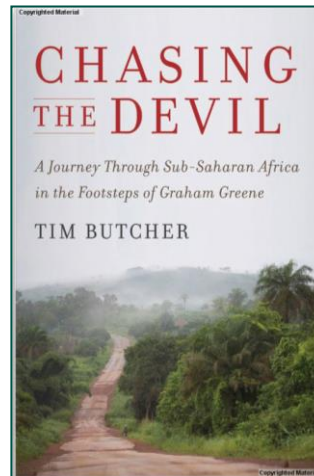
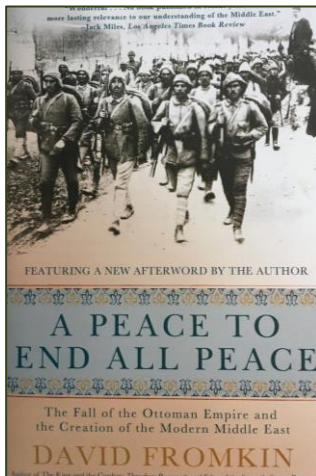
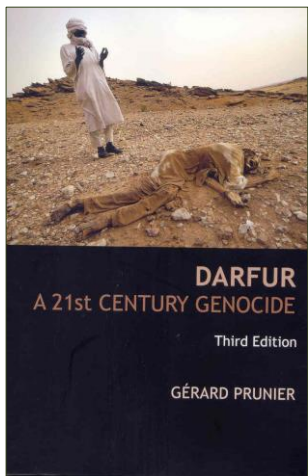
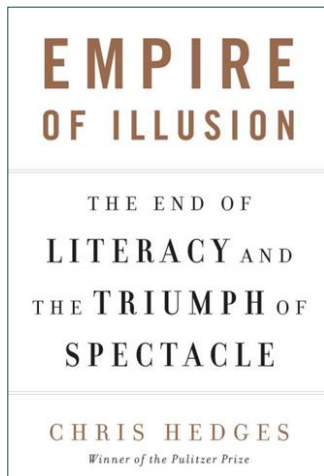


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**Paper
Laptops
Internet Cafes
Wi-Fi
Facetime
Canada Hat**

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



Possible Titles

My \$1.4 Million Data Set

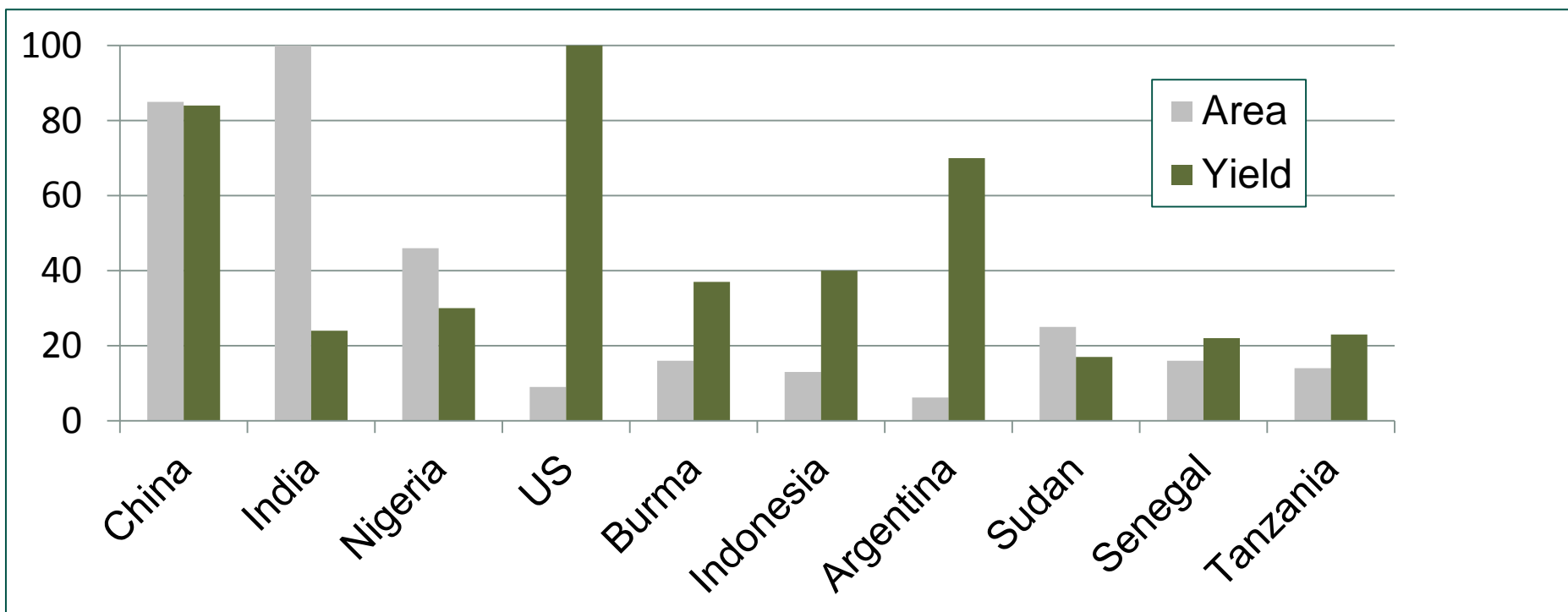
Giving Away Your Operating Funds as PI Doesn't Really Help

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

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.



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

Input	Percent
Labor	47
Seed	28
Fertilizer	16
Insecticide	2
Irrigation	4
Interest	3

Ghana

Input	Percent
Labor	91
Plowing	9

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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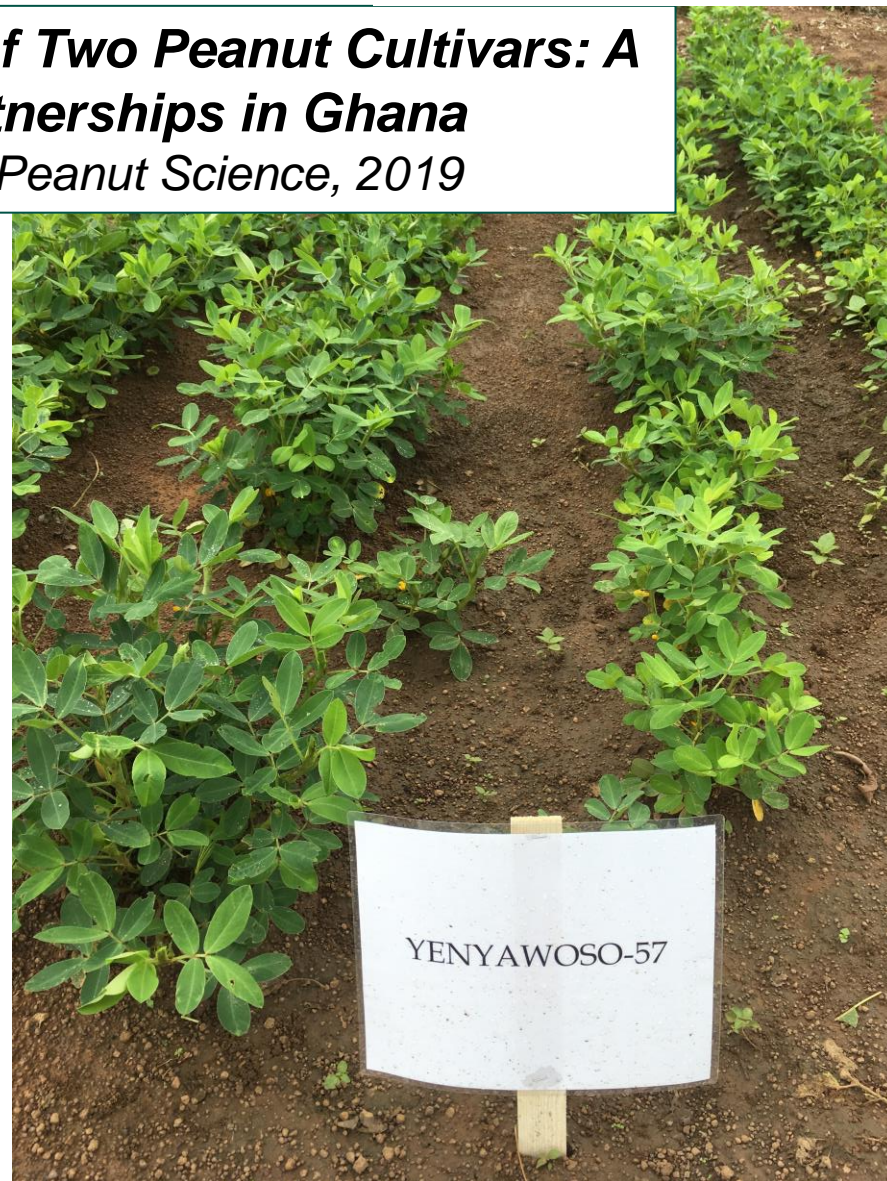


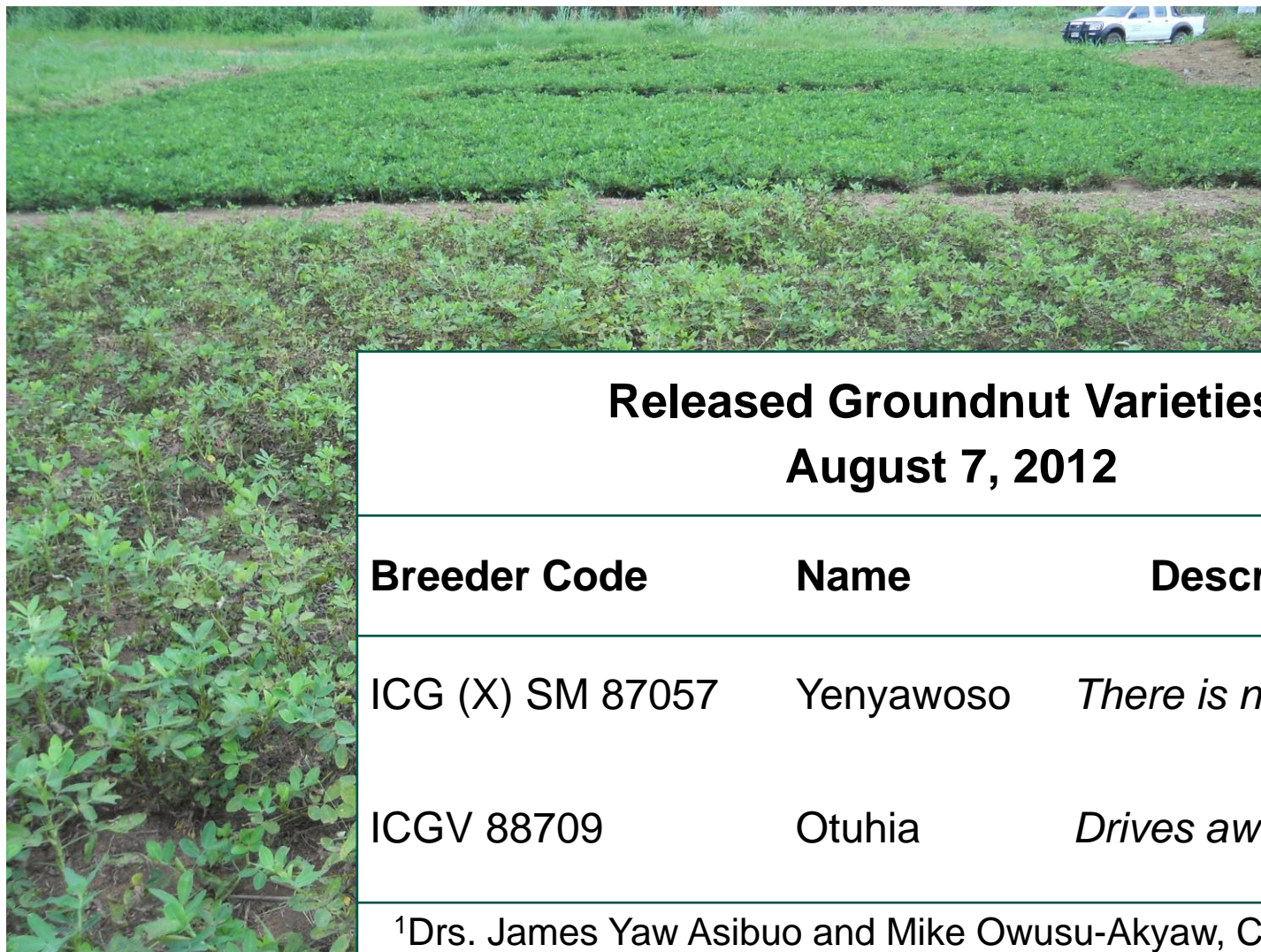
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Evaluation and Release of Two Peanut Cultivars: A Case Study of Partnerships in Ghana

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





Released Groundnut Varieties¹

August 7, 2012

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

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



ICRISAT's locations in the semi-arid tropics



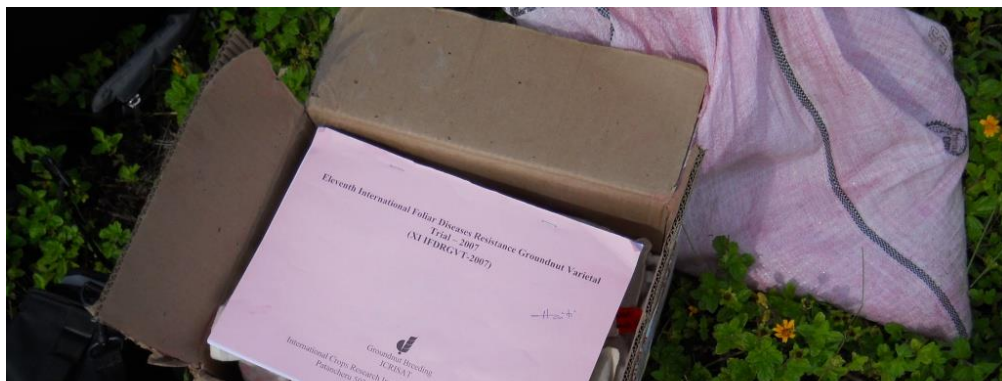


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Comparison of agronomic characteristics of the cultivars Otuhia and Yenyawoso to other cultivars available in Ghana in 2010.^a

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

^aMeans 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





Broader Message and *Fun* with Colleagues

Three Parables from a Development Project in West Africa





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Letting Perfection be the Enemy of the Good?

Integrated Practices to Manage Diseases, Nematodes, Weeds and Arthropod Pests of Groundnut in Ghana



Editors

M. Owusu-Akyaw
M.B. Mochiah
S. Gyasi-Boakye
J.N. Asafu-Agyei



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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

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

- 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

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of CAST.

IPM

Prevent

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Monitor

Suppress



Agriculture

Contact Us
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Pesticide Stewardship on a Global Scale

Worker Protection Standard for Agricultural Pesticides

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 equipment, application, decontamination supplies, and emergency medical assistance.

Agriculture Home

Basic Information

Where You Live

Frequent Questions

Sectors

Animals

Crops

Forestry

Nurseries &

Greenhouse

A to Z Subject

Air

Business Ass

Health & Safe

Pesticides

Site & Equipm

Sustainability

Water

Laws & Regul

Resources

Site Map

AGRICULTURA E COMÉRCIO INTERNACIONAL LIMITADA

Maputo
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Cél.: 82 325 2510
Tel.: 21 752 2020
Fax: 21 752 204
Machava

Chókwé
Av. de Moçambique, 4168
Tel/Fax: 28 120 117

Maxixe
Av. 25 de Setembro
Frente à praça do Município
Tel.: 29 356 055
Fax: 29 330 142

Beira
Rua General da Rocha, 1547
Tel/Fax: 23 328 656

Nampula
Rua da Vigilância, 53
Tel.: 26 212 445
Fax: 26 214482

Pemba
Rua nº 1, Porto 10, edifício da Plexus.
Tel/Fax: 27 220 262
Zona Portuária

NORMAS PARA O USO SEGURO DOS PESTICIDAS



Na compra de qualquer produto assegure-se de que a embalagem é a original. De preferência e se possível escolha os menos tóxicos.



Antes de usar o produto leia atentamente o rótulo. Siga as precauções de segurança indicadas. Durante a preparação da calda e aplicação do produto use material de proteção como fato macaco, máscara, botas e luvas.



Guarde todos os pesticidas separados de outros produtos num local próprio, ventilado, fechado a chave fora do alcance das crianças.



Mantenha as pessoas e animais longe do local onde se prepara a calda e da área a tratar.



Não aplique os pesticidas contra o vento nem com vento forte. A aplicação deverá sempre ser feita nas horas de menor calor e a favor do vento para evitar respirar os produtos pulverizados.



Não comer, beber, fumar durante a utilização dos pesticidas, nem antes de se ter lavado com água e sabão. Não desentupir os bicos com a boca.



Evite sempre que possível, tratamentos na época de floração com produtos perigosos para abelhas. Deve aplicar de manhã cedo ou no final da tarde.



Não contaminar com restos de produto a água dos rios e poços. Lave o equipamento longe das fontes de água.



Inutilize as embalagens vazias, fazendo a tripla lavagem, furando ou queimando e enterrar em local apropriado longe das fontes de água. Para o efeito contacte os serviços de agricultura locais.



Após a aplicação de pesticidas deverá tomar banho com água e sabão. Tire e lave a roupa protectora no fim do trabalho.



No caso de contacto do produto com a pele, lave imediatamente com muita água e sabão. Se o produto atingir os olhos lave-os com muita água durante 10 minutos. Em caso de ingestão vá ao médico e mostre-lhe o rótulo do produto usado.



Cumpra rigorosamente o intervalo de segurança (espaço de tempo entre a última aplicação e a colheita ou consumo do produto tratado) referido no rótulo.

