

Training Pesticide Chemists in West Africa

TPSA 2008

International Stewardship Issues

February 25, 2008

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Why Training?

- Global competitiveness in agricultural trade is imperative for economic stability in West Africa
- Capacity-building at its best includes not only equipment and supplies, but also training of qualified scientists

Without Training...

- Without adequate training, state-of-the-art instrumentation remains unused and covered with dust cloths
- It's the modern equivalent of tractors rusting in fields



Projects in West Africa

Activities with Pesticide Residue Chemists

Mali Project ¹	West Africa Project ²
1999-2003	2004-2009
Capacity Building	Quality Assurance
Mentoring the Mali Lab	Regionalizing to Other Labs
Projects funded by USAID/ IPM CRSP ³	

1 Mali Project: Strengthening the Environmental Toxicology and Quality Laboratory of the Central Veterinary Laboratory, Bamako, Mali

2 West Africa Project: IPM CRSP West Africa Consortium of IPM Excellence

3 USAID/ IPM CRSP: United States Agency for International Development, IPM CRSP: Integrated Pest Management Collaborative Research Support Program

Mali Project

Activity

- Annual exchange of U.S. and Malian scientists



Outcome

- Keeps the project grounded in reality



Mali Project

Activity

- Advanced degree (M.S.) for one scientist



Outcome

- Allows for professional advancement in Mali



Mali Project

Activity

- Soil samples collected in cotton-growing region in Mali for masters thesis



Outcome

- Degree research relevant to Malian environmental study needs



Mali Project (1999-2003)

Activities

- Annual exchange of U.S. and Malian scientists
- Advanced degree (Masters) for one scientist
- Soil samples collected in cotton-growing region in Mali for masters thesis
- Delivery of additional equipment and supplies

Outcomes

- Keeps the project grounded in reality
- Allows for professional advancement in Mali
- Degree research relevant to Malian environmental study needs
- Capacity-building in terms of laboratory operations

West Africa Project (2004-2009)

- Regional project involving collaborators from 4 U. S. universities and nearly 20 West African agricultural institutions
- Project activities: white fly management system, viral diseases in tomato, agroecosystem diversity, pests of potato in storage, **quality assurance** (pesticide safety education, pesticide residue analysis)

Quality Assurance Activities

- Train-the-trainer model to provide hands-on **pesticide safety education** to trainers
- Hands-on training for **residue chemists** who test for pesticides in fruits, vegetables, and other food commodities

Chemist's Workshop September 2006 Dakar, Senegal

Quality Assurance for Pesticide Residue Chemists

Fruitful exchange of information on quality assurance topics such as reporting limits, pesticide/crop priorities for method validation and inter-laboratory testing; and laboratory capacity and stage of certification/accreditation to ISO standards



West Africa Pesticide Programs (WAPP)

West Africa Pesticide Programs <http://www.wapp.biochem.vt.edu/> *Networking for Pesticid
Chemists and Pesticide
Safety Educators*

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[Partners](#)

NEWS

[Workshops](#)

Workshops sponsored by Virginia Tech West Africa IPM CRSP in 2007:

[West Africa Links](#)

Regional Pesticide Safety Educators Workshop (May/June 2007) - Bamako, Mali

[Acronyms](#)

QuEChERS Workshop for Chemists (August 2007) - Bamako, Mali

CHEMISTS

[Analytical
Methods](#)

A special thanks ... The United States Department of Agriculture (**USDA**) - **Foreign Agricultural Service (FAS)** sponsored the travel of a USDA - Agricultural Research Service (ARS) Lead Scientist and three chemists from West Africa (Burkina Faso, Niger, Nigeria) to the QuEChERS workshop, and the **Food and Agricultural Organization (FAO)** sponsored the travel of three chemists from Senegal to the same workshop. The regional scope of the QuEChERS workshop was possible due to the support of the USDA-FAS and the FAO.

[Quality Assurance](#)

[Tools & Utilities](#)

[Related Links](#)

[Read more about workshops...](#)

EDUCATORS

[Training Materials](#)

Welcome

[Quality Assurance](#)

Greetings to the pesticide residue chemists and pesticide safety educators in West Africa who are visiting this web site for the first time. And welcome to those who are long-time collaborators.

[Tools & Utilities](#)

[Related Links](#)

Mission Statement

Our mission is to facilitate networking of pesticide residue chemists and of pesticide safety educators who support agricultural activities in the West Africa region. Useful and relevant information is provided to assist your research activities. Please contact us if there is additional information that you would like to find available on this web site.

Chemist's Workshop August 2007 Bamako, Mali

QuEChERS Workshop for Chemists

Hands-on training using the QuEChERS method which is currently in world-wide use monitoring pesticide residues in fruits and vegetables. Chemists from different countries and institutions worked together as teams to promote networking.





QuEChERS Workshop, Bamako, Mali

Chemists representing 9 laboratories in 5 West African countries (Mali, Niger, Nigeria, Burkina Faso, Senegal) attended – 24 chemists in all.

**Chemist's Workshop
August 2007
Bamako, Mali**

**QuEChERS Workshop
for Chemists**

Dr. Steven J. Lehotay, Lead Scientist at the USDA-Agricultural Research Service (ARS) in Wyndmoor, PA, provided lectures on the QuEChERS method and a demonstration/training session.



USDA-FAS and FAO Sponsorship

Sponsorship

- The USDA Foreign Agricultural Service (FAS) sponsored Dr. Lehotay's travel to the workshop in addition to one chemist each from Niger, Nigeria, and Burkina Faso.
- The Food and Agriculture Organization (FAO) sponsored three chemists from Senegal.

Regional Scope

- USAID/IPM CRSP funds were leveraged to obtain an additional \$12k in funding to support professional training for chemists.
- The regional scope of this workshop was due to the sponsorship of chemists by the USDA-FAS and the FAO.

Pesticide Chemists in West Africa

Institutions

- Environmental Toxicology and Quality Control Lab, Bamako, Mali
- Locustox Foundation, Dakar, Senegal
- LANSPEX, Niamey, Niger
- LACATOX, Ougadougou, Burkina Faso
- NAFCAC, Lagos, Nigeria

Location in West Africa



Chemists from these institutions participated in the Bamako 2007 workshop

Lessons Learned

- Hands-on professional training workshops promote technology transfer and networking
- Web sites are a useful tool to share information among researchers in the West Africa region
- Brainstorming sessions are useful to solve professional challenges common to scientists within the region

Stewardship

What does it mean in terms of training international scientists?

- Empower scientists
- Inform directors and administrators
- Connect-the-dots
- Spread the word

Thank you for your attention

