UNIVERSITY OF NAIROBI
SEED ENTERPRISE MANAGEMENT INSTITUTE (SEMIs) SHORT COURSES

2015 SERIES OF LECTURES, PRACTICALS AND FIELD TOURS

1. Seed Production
2. Seed Drying, Processing and Storage
3. Seed Business
4. Seed Marketing
5. National Plant Protection Organizations (NPPOs) and Seed Quality Regulators
6. Seed Production Field Diagnostics
7. Seed Quality Assurance and Seed Quality Management

Compiled By:

SEMIs, Department of Plant Science and Crop Protection
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Acknowledgements:
School of Business, University of Nairobi
Seed Centre, Iowa State University
CYMMIT, Zimbabwe
International Consultants – Aline, F. O’Connor, Dilip Gokhale
KALRO
KEPHIS
Seed Companies: Kenya Seed, Leldet, Drylands Seed
University of Nairobi Library – Mugo, H. and Mioru, G.
OVERVIEW OF SEMIS TRAINING MODULES

Mwang’ombe, A. W., Olubayo, F. M., Njoroge, K.
Alliance for a Green Revolution in Africa-AGRA
Total funding: 4,495,432.00 USD
Phase 1: 3 years (2010-2013), Phase 2-2014-2016

University of Nairobi
PI: Prof. A.W. Mwang’ombe
Management: Prof. F. Olubayo, Prof. Kiarie Njoroge
Daniel Wasonga – Project Manager, Florence Kiwunja - Admin. Asst.,
Francis Maina, Caroline Ndumi, B. Kirangu - Field Assts

CIMMYT:
Dr. John MacRobert
(Author-Seed Business Mgt In Africa)

KEPHIS:
DR. Esther Kimani-Director
KEPHIS
Mr. Kibet

KARI:
Dr. Riungu and Dr. Ragwa

ISU
Dr. Misra
Dr. Y. Shyy
Dr. Joe Cortes
Dr. Mike Stahr

Consultants:
Aline O’Connor Funk
Paul Seaward
Paul Okete
Overall Goal
- Eradication of food and nutrition insecurity through capacity building of seed actors.
  - Quality seed
  - Affordable seed

Objectives:
1. To produce seed production and marketing management expertise in SSA region
2. To train seed industry practitioners on the best practices to efficiently produce adequate high quality seed for farmers.
3. To enhance production of seed of improved varieties for the SSA
   - Efficient production
   - Marketing
   - Good distribution
4. To strengthen the capacity of the SSA region to train on seed production and marketing management strategies
   - Enhanced technology
5. To develop a regional capacity to facilitate information sharing on seed issues and related disciplines in SSA.
SEMIs PARTNERSHIPS

AGRA

CIMMYT

UoN

ISU

KARI, KEPHIS KENYA SEED

CONSULTANTS

AGRA

IOWA STATE UNIVERSITY

GROWING THE SEED INDUSTRY IN AFRICA
SEMIs in 21 African Countries!!!
**SEMI's COURSES AT UON:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Collaborators</th>
<th>Coordinators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed production</td>
<td>UoN, CIMMYT, KEPHIS, KALRO, Leldet seed co.</td>
<td>Prof. Kiarie Njoroge/ Prof. Olubayo</td>
</tr>
<tr>
<td>Seed drying processing and storage</td>
<td>UoN, ISU, KEPHIS, KALRO, Kenya seed Co.</td>
<td>Dr. Onyango Mbunge, Prof. Kiarie Njoroge, Prof. Olubayo</td>
</tr>
<tr>
<td>Seed marketing</td>
<td>UoN (sch of Bus), Aline O’Connor, Kenya seed Co.</td>
<td>Dr. Justus Munyoki, Prof. Kiarie</td>
</tr>
<tr>
<td>Seed Business Mgt.</td>
<td>UoN (Sch. Of Bus.) Aline O’Connor, Kenya seed Co.</td>
<td>Prof. Evans Aosa, Prof. Olubayo, Mr. Herick ondingo</td>
</tr>
<tr>
<td>Seed Quality assurance and Seed Enterprise Quality Management</td>
<td>UoN, ISU, KEPHIS, KALRO, Kenya Seed Co.</td>
<td>Prof. Olubayo, Prof. Muthomi, Prof. RD. Narla, Prof. Mwang’ombe</td>
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<tr>
<td>Seed Production Field Diagnostics</td>
<td>UoN, KEPHIS, KALRO, Kenya Seed Co.</td>
<td>Prof. Olubayo, Prof. Muthomi/Prof. Narla/Prof Mwang’ombe</td>
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<tr>
<td>National Plant Protection Organizations (NPPO)</td>
<td>UoN, KEPHIS, KALRO, Kenya Seed Co.</td>
<td>Prof. Kiarie, Prof. Olubayo</td>
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## SUMMARY OF TRAINED PERSONNEL IN PHASE I – 2010-2013

<table>
<thead>
<tr>
<th>Course</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>Total Per Course</th>
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<tbody>
<tr>
<td>Seed Production</td>
<td>29</td>
<td>27</td>
<td>30</td>
<td>0</td>
<td>86</td>
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<tr>
<td>Seed Drying Processing and Storage</td>
<td>31</td>
<td>28</td>
<td>30</td>
<td>0</td>
<td>89</td>
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<tr>
<td>Seed Business Management</td>
<td>29</td>
<td>26</td>
<td>29</td>
<td>25</td>
<td>109</td>
</tr>
<tr>
<td>Seed Marketing</td>
<td>28</td>
<td>25</td>
<td>30</td>
<td>27</td>
<td>110</td>
</tr>
<tr>
<td>Seed Quality Assurance</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Seed Legislation and Accreditation</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td>25</td>
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<tr>
<td>Seed Quality Assurance and seed Enterprise Quality Management</td>
<td>26</td>
<td>29</td>
<td>0</td>
<td></td>
<td>55</td>
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<tr>
<td><strong>Total (Yearly)</strong></td>
<td>172</td>
<td>132</td>
<td>148</td>
<td>52</td>
<td>504</td>
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# SUMMARY OF TRAINED PERSONNEL IN PHASE II – 2014-2016

<table>
<thead>
<tr>
<th>Course</th>
<th>2014</th>
<th>2015</th>
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<tbody>
<tr>
<td>Seed Production</td>
<td>23</td>
<td>26</td>
</tr>
<tr>
<td>Seed Drying Processing and Storage</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>Seed Business Management</td>
<td>19</td>
<td>30</td>
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<tr>
<td>Seed Marketing</td>
<td>20</td>
<td>31</td>
</tr>
<tr>
<td>Seed Quality Assurance and seed Enterprise</td>
<td>19</td>
<td>30</td>
</tr>
<tr>
<td>National Plant Protection Organizations</td>
<td>21</td>
<td>24</td>
</tr>
<tr>
<td>Seed Production Field Diagnostics</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td><strong>Total (Yearly)</strong></td>
<td><strong>143</strong></td>
<td><strong>190</strong></td>
</tr>
</tbody>
</table>
Long Term courses in Seed Technology and Business:

Curriculum already in place for:

I. Certificate - Seed Technology and Business
II. Diploma - Seed Technology and Business
III. Post-graduate Diploma - Seed Technology and Business
IV. MSc. - Seed Technology and Business

15 Students have enrolled for the MSc. Seed Technology and Business program
SEMIs Curricula

- Involvement of stakeholders in the development;
- ISU, Consultants, CIMMYT, UON, KARI, Seed Companies
- Annual Review every year to keep abreast on seed Issues and changing trends in the seed industry

One of the best “thought-through” and relevant curricula in Africa focused on seed
World Class Facilitators:

John MacRobert - CIMMYT

Kiarie Njoroge - UON CAVS

Jenny Leakey - Leldet

Dr. Yuan Shyy - ISU

Aline O’Connor – Seed Business mgt

Dr. Joe Cortes - ISU

KEPHIS
So far over 100 seed companies from 21 African Countries have benefited from training at SEMIs.

TRAINED PERSONNEL ARE A GREAT ASSET FOR SEED COMPANIES:

The training at SEMIs is helping scaling up production of high quality seed for farmers around Africa.
Other Activities at SEMIs:

Foundation seed production at CAVS:

**Varieties:**
- Meizi mbili
- Kenya Wonder
- Kenya Red Kidney
- Kabete Super
- Kenya Sugar Bean
- Super Rosecocco
Provision of foundation seed for seed co.

White label seed produced at SEMIs

<table>
<thead>
<tr>
<th>Year</th>
<th>Tonnage</th>
<th>Variety</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1.76 tonne</td>
<td>Kenya Red Kidney, Meizi Mbili</td>
</tr>
<tr>
<td>2014</td>
<td>4.3 tonne</td>
<td>Kenya Red Kidney, Kabete Super, Miezi Mbili</td>
</tr>
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</table>

“Seed companies all over Africa indicate foundation seed availability and access as a major contributor to low seed production”

Presentation of White label breeder seed to Kenya seed company CEO. Mr. Soi at a ceremony at CAVS
Modern Seed laboratory and Seed Processing facility being constructed at CAVS with SEMIs funds

**Phase 1:** Seed Processing Unit.
- Seed from UNISEED and other seed companies to be processed

**Phase 2:** Modern Seed Laboratory for Seed Quality Assurance
- Seed Quality Laboratory
Phase 1: Seed Processing Unit

Construction of Seed processing factory is complete. The factory to process over 5000 MT of seed

• Installation of seed processing machines ongoing.
• Expected handover date - Early August 2015
PHASE II: LABORATORY CONSTRUCTION

- Construction of seed laboratories is ongoing - 90% is complete
- Painting works and fittings ongoing with expected handover – End September, 2015
Participation in National and Regional Workshops and Meetings on Seed Issues

Agricultural Sector Development forum- Kibaki in attendance

<table>
<thead>
<tr>
<th>Other meetings</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>FARA Meeting</td>
<td>2011</td>
</tr>
<tr>
<td>KARI congress</td>
<td>2012</td>
</tr>
<tr>
<td>STAK congress</td>
<td>2013</td>
</tr>
<tr>
<td>ASK Show</td>
<td>2014</td>
</tr>
</tbody>
</table>

Kenya-Agricultural transformation Day in Nairobi

H.E. Mohamed Shein Pres. Of Zanzibar at the AFSTA-Congress Zanzibar
SEMIs at the ASK show in Nairobi

Rosebenna from SEMIs talks to farmers on the New Bean Varieties
SEMIs is a point of call for seed companies:

• Agricultural / Seed Institutions are using SEMIs as a port of call during meetings and visits.

• Point of reference for seed trends.

• Need to platform this to become the leading seed reference point in Africa.

Seed company personnel with STAK officials call in at SEMIs.
Highlights ..

Experiential training - Visit to the seed industry

Training on Finance and capital Acquisition:
- Root capital and ASIF funding

Experts at SEMIs
Collaboration with Stakeholders and Experts:

Dr. Julius Kipng’etich-Director, Kenya Wildlife Services (KWS)

Guest lecture at the seed business module course

Observed Changing trends in the Seed Industry in Africa.....

“as I move across Africa, I see African Farmers have changed their strategy to improved seed”

Dr. Joe DeVries-Director, PASS
Highlights contd:

Seed Production May 2012:

Visit to KARI Wheat Rust Resistance Breeding Station-Njoro
Seed Marketing Course - July 2012

Participants with the MD-Simlaw Seed company Mr. Soi
Visit to Dry land Seed company seed store in Machakos
Familiarization with Certified seed packaging at a seed company in Kenya
Working with consultants to enhance capacity Building

Seed Business Class with Dilip Gokhale
Graduation – Certificate presentations:

Joe DeVries - Director Pass presents certificate and books to participants

Prof. Mwang’ombe - SEMIs PI presenting a certificate to Janet Gyima from Ghana

Rewarding our Participants with certificates at the end of each course motivates them to be better “seed men”
Comments from Participants:

“I like every topic we did in this course especially seed certification and de-taselling “ Anonymous.

“Previously I did not know how to project seed requirements and co-ordinate backwards for procurement of basic, pre-basic seed…” Now I know” Mr Omari Mduruma- Aminata seed company Tanzania

“The knowledge I have acquired through the course will be highly valued not only in our seed company but in the whole of Zambia” Dorica Banda Indigenous seed company Zambia
Monitoring and Evaluation:

A monitoring and Evaluation team from AGRA visited SEMIs on 19th February 2012 to assess the project.
SEMIs Website:  
www.semis-africa.org

- Sharing information on seed issues, current happenings in the seed industry in Africa
- Staying in touch with SEMIs participants
- Online registration of Students
Thank you for your attention
NATIONAL PLANT PROTECTION ORGANISATIONS (NPPOs) AND SEED QUALITY REGULATORS