

DSSAT 2014



International Training Program

**Assessing Crop Production,
Nutrient Management, Climatic Risk
and Environmental Sustainability
with Simulation Models**

May 19 - 24, 2014

*A Joint Training Program
of
DSSAT Foundation
Washington State University
International Fertilizer Development Center
University of Georgia and
University of Florida*

ABOUT THE TRAINING WORKSHOP

When the Workshop Begins

The program will start on May 19 and end May 24, 2014. It will be held on the Griffin Campus of The University of Georgia (UGA), located just south of Atlanta, GA. International participants should plan to arrive two days prior to the start of the program to adjust to time zone differences and recover from travel fatigue.

Location and Directions to The University of Georgia, Griffin Campus

The University of Georgia, Griffin Campus is on the North side of Griffin, GA and the East side of US Highways 19 and 41. You will find explicit directions to the Griffin Campus and other related information on the UGA Griffin Campus web site: www.uga.edu/griffin/directions.html. When you register for the workshop, we will forward travel directions to you as part of your confirmation package.

Lodging Facility and Accommodations

Two hotels have been designated as preferred hotels. They are the Holiday Inn Express and the Hampton Inn and Suites, both located approximately one mile from a local business district and two miles from our campus. They are also located across the highway from each other. These hotels come with special business room rates of \$77.00 per night plus tax for the Holiday Inn Express and \$70.00 per night plus tax for the Hampton Inn and Suites. To receive this rate you must make your reservation by calling the Holiday Inn Express in Griffin, GA directly at 770-467-0366 or calling the Hampton Inn in Griffin, GA at 770-229-9900. Both hotels provide a daily continental breakfast. Rooms have home office accommodations including wireless connectivity, voice mail, and free local calling. Other amenities include cable TV, iron/ironing board, and coffee maker. In addition to our "preferred" hotels, there are other hotels in Griffin. If you register for the workshop, you will receive a confirmation packet which will include a listing of hotels in Griffin. You must make your own hotel reservations.

Special Needs

If you have any special needs, please let us know in the space provided on the registration form. We will do our best to assist you. Call the Continuing Education office for more information.

Qualifications for Application

- Participants should be university graduates currently engaged in crop production or agro-ecosystems related research, teaching, extension, outreach, or planning.
- They should have some understanding of crop and soil science and be relatively familiar with the terminology used in these fields. An in-depth knowledge, however, is not a prerequisite.
- They should be familiar with personal computers and the Windows operating environment.
- They should understand English.

Continuing Education Units (CEU)

On request, participants can receive 4.8 CEU and a Certificate from the University of Georgia certifying that they completed the program.

Visa Requirement

A visa is required to enter the United States. Each participant must obtain a visitor visa from the Embassy or Consulate of the United States in his or her country of residence prior to departure and is required to fulfill any required health formalities, including obtaining insurance. The Office of Continuing Education can provide a letter, confirming your participation in the workshop, to facilitate your visa application. Allow ample time for the visa approval process.

For Workshop Information contact:

Art Cain or Mary Ellen Mount
The University of Georgia • Office of Continuing Education
1109 Experiment Street • Stuckey Conference Center 125
Griffin, Georgia 30223, USA
Telephone: 1-770-229-3477; Fax: 1-770-233-6180
E-mail: conteduc@uga.edu

For Program Information contact:

Dr. Gerrit Hoogenboom
Director, AgWeatherNet and Professor
Washington State University
24106 North Bunn Road
Prosser, Washington 99350-8694, USA
Telephone: 1-509-786-9371
Fax: 1-509-786-9370
E-mail: gerrit.hoogenboom@wsu.edu

Faculty

The following faculty will lecture in this training program:
Dr. G. Hoogenboom, Washington State University
Dr. K.J. Boote, The University of Florida
Dr. L.A. Hunt, University of Guelph, Canada
Dr. J.W. Jones, The University of Florida
Dr. J. Lisazo, Universidad Politecnica de Madrid, Spain
Dr. S. Asseng, The University of Florida
Dr. C. Porter, The University of Florida
Dr. J. W. White, USDA-ARS-ALARC
Dr. V. Shelia, Washington State University
Dr. U. Singh, IFDC

Co-Sponsors

DSSAT Foundation
Washington State University
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International Fertilizer Development Center



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Assessing Crop Production, Nutrient Management,
Climatic Risk & Environmental Sustainability
Office of Continuing Education
Stuckey Conference Center, Room 125
1109 Experiment Street
Griffin, GA 30223

DSSAT Version 4.6

Assessing Crop Production, Nutrient Management, Climatic Risk and Environmental Sustainability with Simulation Models

AN OUTSTANDING TRAINING WORKSHOP

Rationale

Today more than ever, increased crop production depends on judicious use of resources. In addition, issues such as climate change, climate variability, soil carbon sequestration, biofuels, long-term food security and environmental sustainability have become important issues. Computer simulation models of the soil/plant/atmosphere system can make a valuable contribution to both furthering our understanding of the processes that determine crop responses and predicting crop performance, resource use and environmental impacts for different environments and management scenarios. User-oriented simulation models greatly facilitate the task of optimizing crop growth and deriving recommendations concerning crop management. They can also be used to determine the potential impact of climate change on crop production and long-term soil carbon sequestration, or provide management scenarios for adapting to climate change and variability.

Program Goal and Objectives

The overall goal of this training program is to familiarize participants with a comprehensive computer model for the simulation of crop growth and yield, soil and plant water, nutrient and carbon dynamics and their application to real world problems.

Specifically the program will focus on:

- Operation of the Windows-based Decision Support System for Agrotechnology Transfer (DSSAT) Version 4.6 software (www.DSSAT.org)
- Description of the DSSAT-Cropping System Model, CSM and its modules, such as CROPGRO, and CERES, and the science embedded in the models.
- Minimum data requirements and experimental data collection for systems simulation.
- Integration of crop simulation models with data base management and Geographic Information Systems.
- Application of the DSSAT-CSM model to improve management of cropping systems.

- **Windows-based DSSAT Version 4.6 Cropping System Model**
- **Receive DSSAT v4.6 Software and the book *Understanding Options for Agricultural Production***
- **CROPS: bahia, barley, bell pepper, brachiaria, cabbage, canola, cassava, chickpea, cotton, cowpea, drybean, faba bean, green beans, maize, millet, peanut, pineapple, potato, rice, sorghum, soybean, sugarcane, sunflower, sweet corn, tanager, taro, tomato, velvet bean, and wheat**

PROGRAM HIGHLIGHTS . . .

The program will:

- Describe a practical approach for simulating effects of soil, weather, management, and pest factors on crop production.
- Demonstrate how processes of crop growth and development, water use, uptake of water and nutrients and carbon dynamics can be simulated.
- Make extensive use of "hands on" sessions that apply the DSSAT-CSM model to cropping systems in various regions of the world.
- Describe procedures for collecting and managing crop, weather and soil data for model evaluation.
- Give participants the opportunity to work with their own data and determine the accuracy of the models for application to specific problems.
- Analyze management alternatives for single seasons or over long-term crop rotations.
- Concentrate on specific applications that include irrigation, fertilizer and nutrient management, climate change, soil carbon sequestration, climate variability, and precision management.
- Assess economic risks and environmental impacts associated with agricultural production.

- **Precision management**
- **Climate change and variability**
- **Food security**
- **Feed stock for bio-fuel**
- **Soil carbon sequestration**
- **Environmental impact**
- **Sustainability**
- **Ecosystem services**

Cropping System Model & DSSAT

The program will make extensive use of the DSSAT-Cropping System Model (CSM). CSM is a general cropping-system model for simulating crop growth and development and soil and plant water, nitrogen, phosphorus and carbon dynamics. CSM is comprised of the CROPGRO module for soybean, peanut, common bean, chickpea, faba bean, cowpea, and other grain legumes, the CERES module for maize, sorghum and millet, the CERES-Rice module for rice, the SUBSTOR module for potato, the CROPSIM-CERES module for wheat and barley, the CROPGRO module for tomato, bell pepper, bahia, brachiaria, cotton, canola and green beans, the CANEGRO model for sugarcane, and the CASSAVA module for cassava. The CENTURY model for the simulation of soil carbon and nitrogen has also been incorporated in CSM. DSSAT v4.6 is Windows-based and includes the CSM model as well as tools and utility programs for managing soil, weather, genetic, crop, economic and pest data, and application and analysis programs.

REGISTRATION INFORMATION . . .

Registration Fee

The registration fee is \$1500 if you register by April 4 and \$1800 if you register after April 4. It covers resource material including the DSSAT v4.6 software and the book *Understanding Options for Agricultural Production*. It also includes AM/PM breaks and lunch on training days, and registration services. It does not cover breakfast, dinner, lodging, health insurance, or transportation. Each participant is responsible for these costs. If you register by April 4, you are assured of receiving a confirmation package. Lodging is \$77.00 per night plus tax at the Holiday Inn Express and \$70.00 per night plus tax at the Hampton Inn. Food should average about \$30 per day. Enrollment is limited to 40 participants.

How To Register: 5 Easy ways

By mail: Mail your registration and payment to the Office of Continuing Education, The University of Georgia, Griffin Campus, 1109 Experiment St., Griffin, GA 30223.

In person: Come to the Office of Continuing Education, which is located in the Stuckey Conference Center, Room 125, on the Griffin Campus. Business hours 8 am-5 pm, M-F.

By telephone: Our telephone number is 1-770-229-3477. Payment is by credit card only.

By fax: Fill out your registration form and fax it to 1-770-233-6180. Payment is by credit card only.

Online: Go to our web site at www.ugagriffincontinuinged.com. Click the DSSAT 2014 link. Payment is by credit card only.

Cancellations, Refunds, and Substitutions

You may cancel up to April 4 and receive a partial refund. However, there is a \$250 per person charge if you cancel. If you cancel after April 4, you will *not* be eligible for a refund. Pre-registrants who fail to attend are liable for the full registration fee. You may, however, substitute another person in your place. Notify our office if you want this option. If the program is canceled by The University of Georgia, you will receive a 100% refund. However, The University of Georgia will not be responsible for any cancellation changes or charges assessed by airlines, travel agencies, or third party entities related to your travel plans.



Please return to:

Assessing Crop Production with Simulation Models

The University of Georgia, Griffin Campus
Office of Continuing Education
1109 Experiment Street, Stuckey Conf. Center, Room 125
Griffin, GA 30223 USA
1-770-229-3477 (Phone); 1-770-233-6180 (Fax)

Registration Form

Please register one (1) person per form. Copy the form as needed. Pre-payment is required to guarantee your registration.

Name: _____
(First) (MI) (Last)

Mailing Address: _____
(street address: please check if home or business)

(city) (state) (zip) (country)

Name: _____
preferred name on badge

Phone: _____ Fax: _____

E-mail: _____

Special Needs: _____

Registration Fee:

Method of Payment:

- \$1500 if postmarked before April 4
- \$1800 if postmarked after April 4

By check (Make check payable to: University of Georgia)

- Personal Cashiers Money order

By credit card

- American Express VISA MC Discover

Name on Credit Card: _____

Credit Card No.: _____ Expires: ____/____

Authorized Signature: _____

Computer Requirements: Participants are REQUIRED to bring their own laptop computer.

- Lodging:** I plan to stay at the Holiday Inn Express, Griffin.
- I plan to stay at the Hampton Inn, Griffin.