

# DSSAT 2020



## International Training Program

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

**December 7 - 12, 2020**

**A Joint Training Program of**  
DSSAT Foundation  
University of Florida  
Institute for Sustainable Food Systems  
International Fertilizer Development Center



## ABOUT THE TRAINING WORKSHOP

### When the Workshop Begins

The program will start on December 7 and end December 12, 2020. It will be held on the Griffin Campus of The University of Georgia (UGA), located just south of Atlanta. 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 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: <http://www.griffin.uga.edu/about/visit-the-campus>. When you register for the workshop, we will forward travel directions to you as part of your confirmation package.

### Lodging and Accommodations

One hotel is designated a preferred hotel: the Baymont Inn and Suites, located approximately one mile from a local business district and two miles from our campus. The hotel provides a daily continental breakfast. Rooms have home office accommodations including WiFi, voice mail, and free local calling. Other amenities include cable TV, iron/ironing board, and coffee maker. The special business room rate is \$75 per night plus tax at the Baymont Inn and Suites. To receive this rate, you must make your reservation by calling the Baymont Inn and Suites in Griffin, Georgia, at 770-229-9900. Note that you must make your own hotel reservation. We will provide transportation from the hotel to the University of Georgia Griffin Campus.

### 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. Participants should be familiar with personal computers and the Windows operating environment. Lastly, participants must 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 and Logistics Information contact:

Mr. Art Cain or Ms. Julie Peters  
Office of Continuing Education  
The University of Georgia  
125 Stuckey Conference Center  
1109 Experiment Street  
Griffin, Georgia 30223, USA  
Telephone: 1-770-229-3477; Fax: 1-770-233-6180  
E-mail: [conteduc@uga.edu](mailto:conteduc@uga.edu)

### For Program Information contact:

Dr. Gerrit Hoogenboom  
Preeminent Scholar and Professor  
Institute for Sustainable Food Systems  
University of Florida  
184 Frazier Rogers Hall  
Gainesville, Florida 32611, USA  
Telephone: 1-352-294-1036; Fax: 1-352-392-4092  
E-mail: [gerrit@ufl.edu](mailto:gerrit@ufl.edu)

### Faculty

The following faculty will lecture in this training program:  
Dr. G. Hoogenboom, The University of Florida  
Dr. W.D. Batchelor, Auburn University  
Dr. K.J. Boote, The University of Florida  
Dr. C. Porter, The University of Florida  
Dr. V. Shelia, The University of Florida  
Dr. U. Singh, International Fertilizer Development Center

### Co-Sponsors

DSSAT Foundation  
University of Florida  
International Fertilizer Development Center



## DSSAT Version 4.7

# Assessing Crop Production, Water and 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, food security and environmental sustainability have become important. 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 4.7 software ([www.DSSAT.org](http://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

- Participants will receive the Windows-based DSSAT Version 4.7 Cropping System Model
- Participants will receive the book *Understanding Options for Agricultural Production*
- Focus crops include alfalfa, bahia, barley, bell pepper, brachiaria, cabbage, canola, cassava, chickpea, cotton, cowpea, drybean, faba bean, green beans, maize, millet, peanut, pigeon pea, pineapple, potato, rice, safflower, sorghum, soybean, sugarbeet, 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, and
- Assess economic risks and environmental impacts associated with agricultural production.

### Applications include:

- Precision management
- Climate change and variability
- Food security
- Feed stock for bio-fuel
- Soil carbon sequestration
- Gene-based modeling
- 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 version 4.7 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 \$1,500 if you register by November 1, 2020, and \$1,800 if you register after November 1, 2020. It covers resource material including the DSSAT version 4.7 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 November 1, 2020, you are assured of receiving a confirmation package. Enrollment is limited to 50 participants.

### How To Register: 5 Easy ways

**Online:** Go to [www.ugagriffincontinuinged.com](http://www.ugagriffincontinuinged.com). Click the DSSAT link at the top of the page. Payment is by credit card only.

**By mail:** Mail your registration and payment to The University of Georgia, Griffin Campus, Office of Continuing Education, 1109 Experiment Street, Stuckey Conf. Center, Room 125, Griffin, GA 30223 USA.

**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.

**Payment by Wire Transfer:** If you are not able to pay using the options given above, you may be able to wire transfer funds to the University of Georgia. Contact the Office of Continuing Education for information on this payment option.

### Cancellations, Refunds, and Substitutions

You may cancel up to November 1, 2020, and receive a partial refund. However, there is a \$250 per person charge if you cancel. If you cancel after November 1, 2020, 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:

- \$1,500 if postmarked on or before November 1, 2020
- \$1,800 if postmarked after November 1, 2020

**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 and U.S. power adaptor.

**Lodging:**  I plan to stay at the Baymont Inn & Suites, Griffin, GA.