



**DSSAT Development Sprint**  
**Hosted by**  
**International Fertilizer Development Center (IFDC)**

Complex F, Wilson Dam Highway  
Muscle Shoals, Alabama

*July 10-14, 2017*

**Goals:**

1. Prepare DSSAT v4.7 for official release
2. Improve DSSAT, the Cropping System Model and associated tools, application programs, and data bases
3. Provide a forum for communications and information exchange among developers, users and others interested in modeling and decision support systems
4. Entrain new developers in DSSAT protocols and methods

**Participants**

- Upendra Singh and Job Fugice, International Fertilizer Development Center
- Gerrit Hoogenboom, Ken Boote, Cheryl Porter, Vakhtang Shelia, Meng Zhang, Willingthon Pavan, University of Florida
- Jeff White, Bruce Kimball, USDA-ARS, Maricopa, AZ
- Kwang soo Kim, Seoul National University, Seoul, Korea/University of Florida
- Bill Batchelor, Auburn University
- Daniel Amariles, CIAT
- Prem Woli, Texas A&M University
- Lamyaa Negm, North Carolina State University

Via Skype:

- Marcio Nicolau, EMBRAPA
- Phil Alderman, Oklahoma State University
- Isaya Kisekka, Kansas State University
- Santiago Cuadra, EMBRAPA

***DSSAT Foundation & International Fertilizer Development Center***

## List of Priorities

- Prepare DSSAT Version 4.7 for Release
  - Gerrit, Vakhtang, Cheryl
- Develop and test a strategy for new crop implementation in DSSAT and CSM
  - Vakhtang, Jeff, Gerrit, Ken, Cheryl
- Evaluate linkages with pest and disease models
  - Willingthon, Bill, Ken, Gerrit, Cheryl
- Evaluate linkages with others models, including drainage, livestock using different approaches
  - Lamyaa, Willingthon, Kwang soo Kim
- Improve model performance, including cassava, sugarbeet, sunflower, pineapple (CAM), forages, others
  - Daniel, Ken, Prem, Gerrit
- Review progress on robust testing platform
  - Marcio, Willingthon, Cheryl, Jeff, Vakhtang, Gerrit
- Resolve canopy temperature problems and begin testing
  - Bruce, Ken , Santiago
- Evaluate and improve irrigation options
  - Cheryl, Vakhtang, Gerrit
- Develop model flexible I/O
  - Willingthon, Cheryl, Gerrit, Kwang soo
- Review generic species options and growth stages (GRSTAGE.CDE)
  - Jeff, Cheryl, Ken, Gerrit
- GSSAT (Geospatial DSSAT)
  - Upendra, Meng, Job, Vakhtang
- 2-D Soil model
  - Meng, Cheryl



**Breakouts (others as needed)**

Pest and disease modeling

Energy balance

Forage modeling

CropTest

Thursday @ 8:30 am CDT

GSSAT

Irrigation

Wednesday @ 10:00 am CDT

Generic species/growth stages

CSV outputs

Flexible I/O



## **Agenda**

### **Monday, July 10, 2017**

08:30 Welcome – Scott Hudson, Director of Operations

- Logistics – Upendra Singh

08:45 Background

- DSSAT Development Sprints: Past, Current & Future – Gerrit Hoogenboom

09:00 Introduction

- Contribution: Why, What & How – Each participant
- Review of Agenda – Gerrit Hoogenboom
- Priority development & brain storming –Jeff White & Gerrit Hoogenboom
- Discussion

10:00 Break

10:30 Version Control: Review (possibly as breakout) – Cheryl Porter

11:00 GIT Version Control: Hands-on training (possibly as breakout) – Cheryl Porter

12:00 Lunch

13:00 Split into teams and begin work

15:00 Break

17:00 Adjourn

### **Tuesday, July 11, 2017**

08:00 Presentation 1 (Willingthon Pavan – CMake & Flexible file I/O)

08:30 Presentation 2 (Lamy Negm – DRAINMOD-DSSAT linkage)

09:00 Resume work in teams (break 10:00 – 10:30)

12:00 Lunch

13:00 Resume work in teams (break 15:00 – 15:30)

17:00 Adjourn



### **Wednesday, July 12, 2017**

08:00 Presentation 3 (Kwang soo Kim – OpenMI/C++ coding & linkages)

08:30 Teams report back

- What was accomplished yesterday?
- What were the problems, if any?
- What do we need to work on today?
- Group discussion on problem solving, if appropriate.

09:30 Resume work in teams (break 10:00 – 10:30)

12:00 Lunch

13:00 Resume work in teams (break 15:00 – 15:30)

17:00 Adjourn

19:00 Group Dinner @ Ricattoni's

### **Thursday, July 13, 2017**

08:00 Optional Presentation 4

08:30 Teams report back

09:00 Resume work in teams (break 10:00 – 10:30)

12:00 Lunch (with Paul, tentative)

13:00 Resume work in teams (break 15:00 – 15:30)

17:00 Adjourn

### **Friday, July 14, 2017**

08:00 Resume work in teams

10:00 Break

10:30 Final report back and discussion

- Work accomplished
- Work remaining
- Potential publications
- Timeline for finishing

12:00 Adjourn

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