

SAES-422 Multistate Research project

W1008: Biology and management of Iris yellow spot virus and thrips in onion

ANNUAL MEETING

Wednesday, December 8, 2010

7:30 am to 1:45 pm

Continental breakfast: 6:30 am to 7:30 am

John Ascuaga's Nugget Casino Resort
Reno, Nevada

Room: Bonanza A & B

2010 Officers:

Chair – Christy Hoepting, Cornell Cooperative Extension Vegetable Program, New York

Vice- Chair – Hanu Papu, Washington State University

Secretary – Shannon Pike, Enza, USA, California

Past Chair – Stuart Reitz, USDA-ARS, Florida

7:30 am

Call to order – Christy Hoepting, 2010 W1008 Chair

Introductions – W1008 officers, participants

NOA update – Wayne Mininger (NO UPDATE)

W1008 and other relevant updates – Lee Sommers, lee.sommers@colostate.edu

- LEE SOMMERS IS THE CONNECTION BETWEEN RESEARCH STATIONS PARTICIPATING IN THE W1008 PROJECT
- NEW STRUCTURE OF NIFA
- FUTURE OPPORTUNITIES FOR RESEARCH THROUGH NIFA IF BUDGETS GROW
- AFRI SUMMARY, MATCHING REQUIREMENTS FOR SCRI GRANTS WILL CONTINUE
- CONCLUSION:
 - A. W1008 FULL SUPPORT TILL NOW; IMPACT STATEMENT APPROVED JUNE 2010
 - B. SEPT 30, 2012 CONCLUSION OF CURRENT W1008 PROJECT
 - C. OPTIONS: CONTINUE OR REVISE OBJECTIVES FOR RESEARCH/EXTENSION PROJECT, SHIFT FOCUS TO A COORDINATING COMMITTEE (AUTHORIZE ANNUAL MEETINGS ONLY (NO RESEARCH OR EXTENSION ACTIVITIES), JUSTIFICATION FOR RESEARCH/EXTENSION PROJECT TO CONTINUE
 - D. NEXT YEAR THE PROJECT NEEDS TO BE SUBMITTED – JANUARY 2012
 - E. START WORK ON THE REVISION EARLIER IN THE YEAR 2011
 - F. SHARE DRAFTS OF PROPOSED PROJECT WITH W1008 MEMBERS, NOA, AND OTHER INTERESTED ONION INDUSTRY STAKEHOLDERS

New Detections Update – Hanu Pappu, presented by Christy Hoepting

- GLOBAL SITUATION
- **NO IYSV DETECTIONS REPORTED – UK, PAKISTAN, WI, MICH; NO or NEW?**
- DETECTION TABLE ON ALLIUM NET WEBSITE, SUMMARIZES W1008
- SEND REPORTS PLEASE TO H. SCHWARTZ TO MAKE ANY UPDATES TO THE SITE

8:10 am

State reports:

Colorado – Howard F. Schwartz, howard.schwartz@colostate.edu

- IYSV/THRIPS EXTENSION BULLETIN AVAILABLE, PUT TOGETHER WITH ASSISTANCE FROM NUNHEMS, PRINTED IN ENGLISH & SPANISH, AVAILABLE AS PDF ON THE ALLIUM NET
- GENOMIC TOLERANCE TRIALS IN FIELD WITH MODERATE TO SEVERE IYSV & THRIPS PRESSURE, PROMISING ENTRIES MENTIONED, SOME LINE DIFFERENCES NOTED IN COLORADO AND NEW MEXICO (CHRIS CRAMER); SUPPORTED IN PART BY SCRI PROJECT WITH M. HAVEY ET AL.
- VOLUNTEER ONION SURVEY TO DETECT THRIPS POPULATION VARIATIONS AND IYSV
- JUNE TO JULY MAXIMUM THRIPS POPULATIONS
- ONION SET TRIAL WAS DONE TO SEE IF IYSV WILL BE TRANSMITTED TO SEED; TESTS WILL BE CONDUCTED DURING 2011
- YIELD LOSS POTENTIAL EXPERIMENT; 30% LOSS FROM IYSV, 60% LOSS FROM THRIPS OR IYSV+THRIPS
- SPECIALTY CROP RESEARCH INITIATIVE – ONION ipmPIPE AND DIAGNOSTICS WAS FUNDED IN 2010 AND WILL BE INITIATED IN 2011 WITH AN EMPHASIS UPON THRIPS AND IYSV BIOLOGY AND MANAGEMENT
- QUESTION/COMMENTS:
 - A. THIRP RESISTANCE OR IYSV RESISTANCE? – HOWARD SAYS MECHANICAL SYSTEM OF INOCULATION IS NEEDED TO TEST AND VALIDATE IYSV RESISTANCE
 - B. WHERE IS THE IYSV INFECTION COMING FROM ON VOLUNTEERS? – NOT A CLEAR SOURCE, COMING UP CLEAN THEN BEING INFECTED POSSIBLY
 - C. POST BULBING CHEMICAL CONTROL ALSO IMPORTANT TO KILL BULB AND CROP RESIDUAL THRIPS
 - D. GENERAL PLANT HEALTH ISSUE RELATED TO PLANT STRESS, MAINTAIN POSITIVE PLANT HEALTH AND THAT HELPS PRODUCTIVITY
 - E. ORGANIC PRODUCTION, WHAT IS THE IYSV CORRELATION? – POSSIBLE ORGANIC METHODS THAT CAN HELP REDUCE THIRP POPULATIONS
 - F. ACTIGARD RECOMMENDATIONS? – GROWERS USING LOW LEVELS, HOWARD RECOMMENDS APPLICATION AT 6 WEEKS PREBULBING AND EVERY 7-10 DAYS UNTIL BULBING, 4-6 DAYS PAST BULBING, 3 OZ PER ACRE TOTAL, EARLY BETTER THAN LATER
 - G. ONION THRIPS OR OTHER THRIPS TRANSMIT IYSV? – TOBACCO THRIPS CAN TRANSMIT IYSV IN GEORGIA TESTS (R. GITAITIS), ONION THRIPS IS STILL THE PREDOMINANT ONE

Washington – Hanu Pappu, presented by Christy Hoepting

- SEASONAL DYNAMICS OF ONION THRIPS IN COORDINATION WITH OREGON STATE
- ELISA TEST IN INSECT, RELATED TO PROTEIN DETECTION IF IYSV as the virus REPLICATES IN the thrips vector
- EVALUATING VIRUS FOR VIRULENCE, MILD VS SEVERE STRAINS, CLADES SHOWING GEOGRAPHICAL INFLUENCE
- VARIETY TRIALS IN COOPERATION WITH OREGON STATE, RELATING FIELD OBSERVATIONS TO ELISA TESTS FOR IYSV

New Mexico – Chris Cramer, cscramer@nmsu.edu

- GERMPASM FOR IYSV TOLERANCE; SIMILAR MATERIALS TESTED IN COLORADO
- MORE SYMPTOMS THIS YEAR VS LAST YEAR IN NEW MEXICO
- DAILY TEMPERATURES – JULY HIGH PEAKS THIS YEAR SO STRESSED PLANTS
- DAILY SOLAR RADIATION – JUNE AND JULY ALSO HIGH THIS YEAR VS LAST YEAR
- FIELD LAYOUT, SHOWS A FOCUS ON BUILDING INFECTION
- SCORING AND RECORDING PROTOCOL
- LEAF COLOR AND WAX FACTOR
- THRIPS PREFER LARGER PLANTS
- NON WAXY PLANT LESS ATTRACTIVE TO THRIPS – SYMPTOMS WILL DEVELOP, BUT SLOWER OVER TIME
- SCREENING OF WILD RELATIVES
- QUESTIONS/COMMENTS:
 - A. FEWER THRIPS ON LIGHTER GREEN LEAF COLOR – WAX ADDS BLUISH COLOR, LOWER WAX = LIGHTER GREEN COLOR
 - B. WILD RELATIVES - DID NOT DO THIRP COUNTS BUT ALL SHOW LESS THRIPS COUNTS AND IYSV INFECTIONS

9:45 am

BREAK (15 min)

10:00 am

New York – Steve Beer, svb1@cornell.edu

- CENTER ROT PRESENTATION – THRIPS MAY VECTOR PANTOEA ANANATIS
- QUESTIONS/COMMENTS:
 - A. PANTOEA AGGLOMERANS – CURRENTLY NOT W1008/IYSV RELATED
 - B. SHOULD THIS BATERIAL COMPLEX BE ADDED TO THE W1008 PROJECT?

New York – Brian Nault, Cynthia Hsu, Erik Smith, Tony Shelton, John Diaz-Montano, Marc Fuchs, Christy Hoepting (cah59@cornell.edu)

- PRODUCTS REGISTERED FOR ONIONS – NONE
- THREE IN THE PIPELINE – MOVENTO (SEC 18 IN 2011), AGRI-MEK 0.7SC (SEC 18 IN 2011), CYAZYPYR (2012 LABEL)
- TANK MIX STUDY – PERFORMANCE OF INSECTICE IS LESSENERED, PENETRATING SURFACTANT CAN OVERCOME THE PROBLEM
- NITROGEN IMPACT ON THRIPS – HIGHER NITROGEN, MORE THRIPS DAMAGE, MORE LODGING, MORE DECAY
- BULB DECAY NITROGEN RELATIONSHIP – MORE NITROGEN, MORE DECAY
- IMPACT ON BULB SIZE
- ROLE THAT SOURCES (WEEDS, VOLUNTEERS, ETC) HAVE ON SPREAD OF IYSV
- FALSE POSITIVES STILL EXIST WITH ELISA; ESPECIALLY WITH WEED TESTING
- EDGE EFFECT AND MOVEMENT DATA STILL NEEDING MORE RESEARCH & ANALYSIS; 'DISCUSSED MICRO-EDGE EFFECTS IN BORDERS BETWEEN PLOTS, LOW PLANT DENSITY; SEEN PREVIOUSLY IN COLORADO'
- PUBLICATIONS AVAILABLE ON THRIPS AND IYSV RESEARCH AT CORNELL
- PRESENTATION OF THE 2011 THRIPS AND IYSV PROJECTS DISPLAYED

Oregon – Clint Shock, clinton.shock@oregonstate.com

- IRRIGATION, FERTILIZER AND VARIETY EFFECTS ON EXPRESSION OF IYSV

- TREATMENT PROTOCOLS
- NO DIFFERENCES IN YIELD, THRIPS OR IYSV BY ADDING MORE NITROGEN
- VARIETY TRIALS, 2009 DATA SHOWED IYSV WAS SEVERE AND PLANTS DID NOT CROP OR MATURE PROPERLY; 2010 IYSV & THRIPS PRESSURES WERE LIGHT
- MARKETABLE AND STORAGE YIELDS RELATED TO IYSV DAMAGE AMONGST VARIETIES
- INSECTICIDE EFFECTS

Idaho/Utah – Dan Drost, dan.drost@usu.edu (NO PREPARED PRESENTATION)

- THREE PRONGED APPROACH, ROTATION – ALFALFA, SILEAGE CORN, WHEAT
- WELL MANAGED PLANT WITH LESS NITROGEN = THRIPS LESS ATTRACTED; REDUCED INSECTICIDE APPLICATIONS
- CORN CROPS BEFORE ONION SEEM TO HAVE LESS THRIPS VS WHEAT
- VIRULENCE OF PATHOGEN POSSIBLY TEMPERATURE RELATED
- EGG LAYING IN LEAVES, EXPERIMENT ONGOING. HIGHER NITROGEN, HIGHER EGG LAYING ON LEAVES
- TRAP CROP RESEARCH (BUCKWHEAT, CARROT, PHYSALIA), USED IN ORGANIC CROPS, ENHANCE PREDATOR THRIPS

Florida – Stuart Reitz, stuart.reitz@ars.usda.gov

- NOT MANY ONIONS IN FLORIDA
- TOBACCO THRIPS REDUCTION USING KAOLIN EVERY 7 DAYS; COULD BE USEFUL FOR DRIP AND FURROW IRRIGATIONS, WASHED OFF BY RAIN AND SPRINKLERS; OBTAINED 70% COVERAE WITH KAOLIN APPLIED @25 LB/A IN 70 GALLONS OF WATER; REDUCES PLANT STRESS & EXPOSURE TO SUNSCALD
- NO IYSV IN FLORIDA

Georgia – Ron Gitaitis, dronion@uga.edu

- IYSV NOT A BIG PROBLEM IN GEORGIA
- SEED SEPT, TRANSPLANT NOVEMBER
- MYSTERY STAND LOSS, LOSE PLANTS FOR SOME REASON, ALL SURVIVING PLANTS TEST POSITIVE FOR IYSV
- WINTER CROP, SO, NO IYSV PROBLEMS, TEMPERATURE OR VECTOR EFFICIENCY UNKNOWN
- TOMATO SPOTTED WILT ON ONIONS IN GEORGIA; SYMPTOMS SIMILAR TO THOSE CAUSED BY IYSV; IYSV TRANSMISSION TO ONION BY TOBACCO THRIPS CONFIRMED; SYMPTOMS MORE APPARENT AFTER STRESS (E.G., HEAT, HAIL)
- POTY- VIRUS IDENTIFIED ALSO ON ONIONS KILLED IN GEORGIA GREENHOUSE

International reports:

Canada (Ontario) – Mary Ruth McDonald, mrmcdona@uoguelph.com

- INSECTICIDE FOR THRIPS CONTROL
- NO SPECIFIC SURVEY IN 2010
- NO OBSERVATIONS OF IYSV IN 2010
- SPRAY COVERAGE SPECIFICS
- TREATMENT SPECIFICS

- EVALUATIONS OF INSECTICIDES; BEST RESULTS IN 2009 & 2010 WITH DELEGATE (RADIANT); CANADA WILL NOT REGISTER CARZOL IN 2011; MOVENTO DID NOT PERFORM WELL, BUT SUGGESTED THAT A SURFACTANT SHOULD BE ADDED
- ONION YIELD IN RELATION TO INSECTICIDES & THRIPS CONTROL; GREENESS RATING SHOWED CANOPY DIFFERENCES BETWEEN GOOD AND POOR CANOPIES
- WEBSITE AVAILABLE AT GUELPH UNIVERSITY
- ANNUAL GROWERS CONFERENCE IN GUELPH

New Zealand - Steve McArthur, steve@vigour.co.nz

- RANDOM INCIDENCE OF IYSV, BEGINNING IN 2002
- 5 THRIPS PER 50 PLANTS ESTABLISHED THRESHOLD IN NEW ZEALAND
- ORGANO PHOSPHATES USED
- 150-200 DAY ONIONS GROWN, 12 TO 18 SPRAYS
- SPRAY UNTIL TOP AIR LIFTING FOR THRIPS CONTROL; CONCERN ON BULB INFESTATION FOR EXPORT SHIPMENT AND REGULATIONS

12:00 noon

BOXED LUNCH COURTESY OF 2010 NARC ORGANIZERS & SPONSORS

Industry reports:

Bayer – Phil Sarasqueta, phil.sarasqueta@bayer.com

- MOVENTO LABEL LOST DUE TO EPA OVERSIGHT, REGISTRATION BACK OCT 2010
- MOVENTO PRODUCT DESCRIPTION, NOT A KNOCK DOWN PRODUCT, MORE ACTIVE ON LARVAE/EGGS, GOOD RESIDUAL, MOVES TO RAPIDLY EXPANDING AREAS OF GROWTH, IS A TRUE SYSTEMIC (UP/DOWN), MUST ADD MSO OR A QUALITY PENETRANT
- ADMIRE PRO PRESENTATION, REDUCES THRIPS & IYSV DAMAGE, INCREASES SIZE OF ONIONS, 21 DAYS PRIOR TO HARVEST LAST APPLICATION, CAN'T LOSE MOISTURE WITH ADMIRE

Grower reports

LANCASTER CA – SON RISE FARMS, JOHN CALANDRI, donna@calandrisonrisefarms.com

- SOUTHERN CA , LANCASTER – IDEAL CONDITIONS FOR IYSV
- EDGE EFFECT PRESENT IN LANCASTER, THRIPS MOVE IN FROM WEST
- OVERHEAD SPRINKLER, WATER EVERY 3RD DAY
- ONION INDUSTRY IS IN JEOPARDY FROM IYSV & THRIPS; W1008 WORK IS HELPFUL

COLORADO - ROBERT SAKATA, rtsakata@aol.com

- ORGANIC PRODUCTION (GRASS MULCH) MIGHT HAVE SOMETHING TO OFFER IN CONTROLLING THRIPS
- KEY FACTOR IS TO REDUCE STRESS ON THE PLANT

EASTERN WASHINGTON – L&L AG PRODUCTION, LLC KERRICK BAUMAN, kerrick@lffarms.com

- CENTER PIVOT, COLUMBIA BASIN
- 22,000 ACRES; THEY PAY A LOT OF ATTENTION TO THRIPS AND ADDED EXPENSE FOR CONTROL
- STORAGE MARKETS
- DRIP IRRIGATION

McCain Foods – Bob mentioned that onion sets have been grown near Malheur, or to avoid IYSV infection; but when planted in areas with thrips and IYSV, they quickly become infected; maybe more so than nearby transplants or seeded onions that are less vigorous

Location and a date for the next annual W1008 meeting

- NEW MEXICO DECEMBER 9, 2011 (FRIDAY)
- COMMITTEE ATTENDANCE ENCOURAGED AT NOA SUMMER RENO TO DISCUSS DIRECTION OF THE W1008 PROJECT; PRESENT A SUMMARY OF OUR 2010 MEETING

Elect a new secretary

Brian Nault, Cornell University (nominated by Chris Cramer, seconded by...), will be the new secretary for W1008. He agreed to take on the roll if New York would not be hosting the next NARC.

Other business

- **WHERE TO GO WITH W1008?**
 - A. UPDATE PROJECT PROPOSAL BY DECEMBER 2011
 - B. 3 OBJECTIVES OF THE CURRENT PROPOSAL
 - C. INCLUDE ALL THRIPS VECTORED PROBLEMS – E.G., IYSV, POST-HARVEST BACTERIA?
 - D. KEEP THE FOCUS BASED ON THRIPS/IYSV?
 - E. AD HOC GROUP TO REWORK THE W1008 PROPOSAL FOR FURTHER REVIEW
 1. EMAIL CHRISTY WITH WILLINGNESS TO BE ON THE AD HOC COMMITTEE; INTEREST EXPRESSED BY H. SCHWARTZ, S. BEER, D. DROST, B. NAULT, W. MININGER, S. PIKE, P. BOCHES
 2. CONFERENCE CALL TO GATHER THOUGHTS
 3. DRAFT AN UPDATED W1008 PROPOSAL BY NOA MID YEAR JULY MEETING
 4. REVIEW UPDATED PROPOSAL WITH SELECTED MEMBERS OF THE NOA COMMITTEE, GATHER INPUTS
 5. SUBMIT FOR COMMENTS TO THE W1008 COMMITTEE
 6. REWRITE AND FINALIZE PRIOR TO NEW MEXICO 2011 MEETING
 7. PRESENT FOR APPROVAL AT NEW MEXICO DECEMBER 9, 2011 MEETING; THEN SUBMIT TO LEE SOMMERS FOR THE JANUARY 2012 DEADLINE

1:45 pm

Adjourn