

Specialty Crops Research Initiative (2009-2012):

“Ensuring U.S. Onion Sustainability:

Breeding and Genomics to Control Thrips and IYSV”

Project Director:

Mike Havey - USDA/ARS, Univ. of Wisconsin

Co-Directors:

Foo Cheung - The Craig Venter Institute

Chris Cramer - New Mexico State University

Hanu Pappu - Washington State University

Howard Schwartz - Colorado State University

Collaborators:

Whitney Cranshaw - Colorado State University

Jerry Hawkes - New Mexico State University

Chris Town - The Craig Venter Institute

Onion Breeders, IPM Specialists, Growers, Agribusiness, etc.



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Extension Project 1:

Identification of resistances to thrips and IYSV

[Responsible PIs – Cramer & Schwartz]

Extension Project 2:

Validation of phenotypes and distribution of selected germplasms

[Responsible PIs – Cramer, Havey, Pappu & Schwartz]

Extension Project 3:

Cost-benefit estimates for thrips and IYSV resistances

[Responsible PIs – Hawkes & Cramer]

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Research Project 1:

Biological diversity and inoculation protocols for IYSV

[Responsible PI - Pappu]

Research Project 2:

Ident. of SNPs (single nucleotide polymorphisms) in expressed onion sequences

[Responsible PIs - Cheung & Havey]

Research Project 3:

Production of a high throughput genotyping platform and a high-density genetic map of onion

[Responsible PIs - Havey + Seed Companies]

Research Project 4:

Association of SNPs with glossy-type foliage and/or thrips & IYSV Resistances

[Responsible PIs - Havey & Cramer]

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Outreach Project 1:

Outreach to the onion community

W 1008, NOA, State Associations, NARC, alliumnet, Onion World

[Responsible PIs – all]

Outreach Project 2:

Development of web-based bioinformatic and education resources

New web site at NZ (John McCallum), alliumnet

[Responsible PIs – Cheung, Schwartz & Havey]

Outreach Project 3:

Undergraduate and graduate student training

[Responsible PIs – Cramer, Havey & Schwartz]

Advisory Committee:

Wayne Mininger (NOA), Harvey Morrow (NMDOC), Robert Sakata (COA),

Dan Brotslaw (Sensient DeHy-CA), Rick Watson (Nunhems Seed Co.)