

## **2020 - Annual Meeting of Regional Project NE1731 January 6 and 7, 2020**

**Location:** Beltsville Agricultural Research Center, Beltsville, Maryland

### **AGENDA**

1. Call to order, additions and approval of agenda, approval of minutes from last meeting  
Greg Porter welcomed us and called meeting to order at 1:05 PM. Agenda unanimously approved (moved by Yencho, seconded by Clough). 2019 minutes unanimously approved (moved by Clough, seconded by Qu).

2. Introductions – Craig Yencho (NC State), Mark Clough (NC State), Walter De Jong (Cornell U), Greg Porter (U ME), Ek Han Tan (U ME), Mark Huttton (U ME), Xinchun Qu (PA State), Chris Clarke (USDA-ARS), Richard Jones (USDA-ARS), Lincoln Zotarelli (U FL), Michael Brooks (NJ grower), John Coombs (NJ grower), Ronny Abrams (NJ grower).

3. Appointment of Committees

Site selection – Raleigh NC, December 14-15, 2020. Going forward, plan is to have face-to-face meetings every two years, with online meetings (e.g. Zoom) in alternate years.

Resolutions – Craig Yencho, Lincoln Zotarelli, Xinchun Qu

Nominations – non-rotation continues. Porter as chair, Clough as deputy chair, De Jong as secretary.

4. Local Arrangements

Dinner tonight – Meet in hotel lobby at 6:00 pm.

5. Administrative Advisor Report – M. Hutton.

Opportunity for NE1731 project to receive training in writing effective impact statements from NERA information management and communication team stands. (Was scheduled for last year's annual meeting, but had to be cancelled due to government shutdown). NC hosts will look into scheduling this for next annual meeting.

6. National Institute of Food and Agriculture (NIFA) Report (TBD)

No NIFA representative was able to attend.

## 7. Research presentations –

Chris Clarke spoke on “Pest management options for diverse lineages of pathogenic *Streptomyces*, the causal agents of common scab disease”. Current understanding is that thaxtomin A is key to pathogenicity. Sequencing 150 *Streptomyces* strains has revealed that: thaxtomin production machinery is necessary, but not sufficient for pathogenesis and there are more *Streptomyces* species than previously recognized. General observation: scab pathogen can vary considerably across regions, e.g. scab pathogen in Maine is quite different from the scab pathogen in Wisconsin. Chris is also testing whether non-pathogenic *Streptomyces* can be used as biocontrol agents for other potato diseases, e.g. *Meloidogyne chitwoodii*.

Richard Jones presented on “Evaluating potential mechanisms of host resistance to early blight”. Seeking to understand what differentiates *Alternaria* saprophytes from necrophytes. One hypothesis: secreted cell-wall degrading enzymes trigger host cell death. His research group is seeking to identify such elicitors.

Han Tan’s talk: “Workflow automation for marker assisted breeding and genetics of disease resistance”. Han is currently screening about 300 clones a year with markers for golden nematode and PVY resistance genes. Small commercial freeze driers (e.g. from harvestright.com), combined with bead mills and Edwards buffer + SDS have simplified his group’s DNA extraction, while robotic pipettors have simplified PCR.

Don Weber (USDA-ARS) gave a talk on Colorado Potato Beetle management on January 7. He provided an overview of cultural, biological, and behavioral control measures. Producing pheromones at reasonable cost is often a barrier to their deployment.

## 8. State Site Reports

FL – 25,000 acres. Fantastic growing season, weather-wise. High yields.

ME – 52,000 acres. 60% fry and chips, 20% fresh, 20% seed. Number 1 variety is still Russet Burbank. The newer varieties Caribou Russet and Pomerelle Russet are, nevertheless, both looking good. Weather varied by region: central ME had a wet summer, yields and quality were both good; parts of northern ME had much less rain, resulting in poor yield, including the NE1731 seed plots. More pink eye has been observed in Russet Burbank in northern ME this year than ever before.

NY – 14,000 acres. Wet spring considerably delayed planting, but dry fall ensured all potatoes could nevertheless be harvested. Many growers are asking for improved round white tablestock varieties.

NC – 13,500 acres. Wet start delayed planting, followed by many days above 90F during growing season resulted in greatly depressed yields. It was a terrible year for yields, but an excellent year for evaluating susceptibility to internal heat necrosis.

OH – (From Matt Kleinhenz by email) OH is still primarily fresh market, with new interest in chipping out-of-the field.

PA – 5000 acres. 50% chip, 50% table. Good growing season, good yield and quality. Growers are asking for a replacement for Norwis (for diced and fresh-fry) and early-maturing chipping clones.

## 9. Comments from Industry

Three growers from NJ (Michael Brooks, John Coombs, Ronny Abrams) spoke about potato production in their state. These three growers represent more than half of the 2000 acres of NJ potatoes. For chipping potatoes, acreage is about half Atlantic, half Snowden. Resistance to internal heat necrosis and early maturity are key to production. Typically start planting April 1, and then start harvesting July 15 no matter what. Ideal chip potato for NJ matures between Atlantic and Snowden and has a gravity of at least 1.080 (which Snowden often does not reach in NJ).

## 10. Pathology Reports

Greg Porter distributed 2019 scab trial data. He noted that Jay Hao continues to screen for reaction to Dickeya, Pectobacterium, and pink rot.

Xinshun Qu distributed results of early and late blight testing from PA, as well as common scab trial results.

## 11. Breeding/Genetics Reports

Maine. Disease priorities remain PVY, late blight, and common scab. 50% russets, 40% whites, 10% reds and specialty. Seedling numbers were down by about 20% due to budgeting and staffing issues. Selection rate 3% in seedling generation. Intend to release AF4124-7 as 'Hamlin Russet'. Bulks early, fries well. Breeder's choices for 2020 are NDAF113484B-1 (red) and AF5280-5 (round white table).

New York. Planted 18,000 seedlings, plan to lower to 15,000 in coming year. Breeder's choice is NY149 (yellow tablestock).

North Carolina. Started selection at 85-95 days after planting, compared to 115 days post-planting in the past. Many clones bulked/yielded well by this time. Also began testing first-generation clones in [three](#) hill plots. 15 to 16K seedlings planned for 2020. Heavy PVY pressure led to about 40% of seed plots getting rogued out in 2019. NC470-3, a chipping clone, is most promising clone in program at present; gravity similar to Atlantic. NCB2607-3 is also of interest: small, red skin and yellow flesh, but lowish yield.

[Adjourned 5:00 pm. Resumed 8:00 am on January 7]

## 12. NE1731 data collection and website

Northeast potato breeders decided in 2019 to test the Android “Fieldbook” app for collecting trait/trial data. Mark Clough distributed tablets to audience for a hands-on learning exercise with this software, which can be downloaded for free from the Google Play Store. Tutorials are available online.

Brad Halladay of MediusAg is now contracted to host the NE1731 trial data. Website is [neproject.mediusag.com](http://neproject.mediusag.com). Brad walked us through how to use the new database.

## 13. Seed nursery

Greg’s program is taking over field production of seed from from the University of Maine Plant Pathology Program run by Jay Hao and formerly by Dave Lambert. As noted above, yields were low in 2019; this will affect seed availability for 2020 trials. All seed in Maine is now evaluated with a lab test instead of a winter grow-out in Florida.

### **Breeder’s choices** (all sites must evaluate these):

AF5280-5 (round white, competitor for Envol)  
NDAF113484B-1 (red)  
NY149 (yellow)

### **Reminder: standard varieties to include in all NE1731 trials:**

Atlantic  
Dark Red Norland  
Snowden  
Superior  
Yukon Gold

## 14. Eastern Region Potato Special Grant

2019 application was funded, but funds cannot be officially released until NIFA performs an administrative review. With recent relocation of NIFA from DC to Kansas City, many awards (including ours) are experiencing processing delays.

## 15. New funding opportunities.

Specialty crop polyploid tool proposal (NE1731 breeders are participants) will again be submitted in 2020.

## 16. Old Business

Greg submitted an impact statement in 2019.

#### 17. New Business –

Unless funding materializes, we will lose the Long Island evaluation site in 2020. We lost NJ several years ago when Mel Henninger retired. Status of future evaluation in VA is unclear.

#### 18. Committee Reports

Resolutions (moved De Jong, seconded Clough, approved unanimously):

Be it resolved on this 7<sup>th</sup> day of January 2020, that the NE1731 group expresses sincere appreciation to:

- a) Chris Clarke, USDA-ARS BARC, for hosting and assisting with logistics of the meeting as well as presenting his research on potato scab to the project members;
- b) Mark Hutton, Associate Director of the Maine Agricultural and Forest Experiment Station, for attending our meeting and providing guidance as our Administrative Advisor;
- c) Greg Porter from the University of Maine for his leadership and service as our project coordinator, including shepherding the special grant through each year.
- d) The University of Maine technical and professional staff for their extensive efforts planting, rogueing, sampling, harvesting, packing, and shipping seed potatoes from the NE1731 seed potato nursery.
- e) Mark Clough of North Carolina State University for his on-going database management and electronic data capture efforts on behalf of the NE1731 project
- f) Brad Halladay of Medius Ag for attending this meeting, presenting an overview of the potato Variety Data Management (VDM) database, and sharing how to use the VDM to manage data from our potato variety trials
- g) Potato growers Mike Brooks, John Coombs and Ronny Abrams from New Jersey for attending our meeting on Monday and advocating for a renewal of collaborative variety evaluation in New Jersey with Rutgers University or a private consultant;
- h) Walter De Jong from Cornell University for serving as the NE1731 Secretary; and
- i) All NE1731 presenters, potato breeders, cultural management specialists, plant pathologists, entomologists, industry collaborators, and trial cooperators for their dedication to our group effort and their intellectual engagement in the process of potato improvement, selection, and variety development. We are fortunate to have such good collaborators!

#### 19. Other Business – none

#### 20. Adjournment – January 7, 11:35 am.