

Minutes of the 2010 NCERA 211 Meeting
March 18-19
Fargo, ND

In attendance:

Jon Gilley, RD Offutt, jgilley@rdoffutt.com
Wade Gerner, JR Simplot, wade.gerner@simplot.com
Samuel Essah, Colorado State University, sessah@lamar.colostate.edu
Wesley Everman, Michigan State University, everman@msu.edu
Carl Rosen, University of Minnesota, crosen@umn.edu
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Harlene H-Valenti, NDSU, h.hatterman.valenti@ndsu.edu
Duane Maatz, WPVGA, dmaatz@wisconsinpotatoes.com

Call to order 1:15 – Nick David

Introductions – members introduced themselves

Motion that 2009 minutes be accepted, second by Wes Everman
Unanimously passed to accept 2009 minutes

Nick talked about comparing new varieties and various quality parameters – should be an outcome of the group.

State reports

Colorado State – Presented by Samuel Essah Discussed: most popular cultivars, variety development, research areas, market conditions, disease problems, - see written report

Nebraska – Alex Pavlista, limited irrigation on potatoes; cutting back on water allocation. Max allowed 16". When to cut back? What will effects be? What about N?
90-210 lb N/A all liquid application

Full irrigation

Outer stress (2 less irrigation in the first 5 weeks), but had record rain early
Early stress removed 6" 8 weeks from emergence
Late stress removed 6" 8 weeks after emergence
Stress early and stress late

One year data – described responses to water stress and N and interactions

Minnesota/ND – Nick David Described growing season, and potato growing areas, storage problems, high sugars initially, frost potatoes into storage, yields OK but, size somewhat small. Lost 25% of valley production due to early rains (6” in one day). Some lateblight in ND, new genotype, US 24 –A1.

Michigan - Wes Everman - 45,000 A 80% chips; rain then cool wet weather in Oct. Metam sodium – atmospheric flux – large scale studies on farms; PAA meeting report; corky ringspot research; Major diseases – 21 diseases to deal with; late blight US 22 main problem A2 mating type ; Bight throughout the state. No US 8 in Michigan.

Wisconsin Duane Maatz: Planted 63,000 A maybe going down in 2010. McCains reducing acres 15%. 22% reduction in value. Fresh acres down chip acres up. Regional chippers doing well. Dehy plant was lost. Processed contacts being rejected due to color. High yields in 2009. Ground water quantity is an emerging issue. Fluccuations occurring 90-95% annula recharge in last few years, so levels are dropping. Recharge occurs after cropping stops in the fall. After frost no more recharge. Grower return index – over 2 for WI... Cost of production higher in WI. Due to fees and taxes.

Report from MDA Mike Horken – seed certification. 41 seed growers – 7,700 A 6,100 A certified.

Kathy Kromby, MDA – Potato Cyst nematode report – survey of growers to see if potato cyst nematode is present. Also interested in soybean cyst nematode for those rotating into soybean. Also interested in all cyst nematodes. Especially those considered to be invasive spp.

Round table discussion:

Nick led discussion about what the research focus is at the Universities. Want grower input as to what the problems are and what needs to be done in the future.

Weeds: Issues – lambsquarters – biggest problem – Cavendish farms - only product that works is Chateau. What about Lorox?? Dual Lorox combo works well in MI - preemergence post plant.

Chateau – 2” from application to where the sprout are – but in ND injury was a problem. Safest appl is when applied after planting – long time before sprouts come to surface; Soil pH affects Chateau efficacy, but depends on soil OM.

Any preplant? - no practiced in upper mid west

Another product – Reflex – works well and safe but does not control lambsquarters. Does not kill woody plants

Roundup problems in potatoes – spray drift damage vs. carry over. Hard to replicate any carry over problems in controlled studies. Root exudates could be the problem for roundup damage

RDO/Simplot – Chateau has potential – reduced rate?

Roundup drift – dicamba and 24D tolerant soybean – could be a drift problem in the future.
Roundup resistance found becoming more of a problem.

Metam Sodium update – studies about setbacks and drift. WI and MI tests. Buffer zone law in WI works – EPA is more stringent. EPA is reviewing WI and MN data to determine what setbacks should be.

Insects: Colorado potato beetle most problematic due to resistance - Ian McCrae- wants to map resistance – Adam Byrne – carrying on work of Ed Grafius to identify resistance.
Problems arise due to low rates applied to short season potato – need to rotate chemistry.
Spirotetramid – now restricted for use to available for potatoes as of now used for aphids; same as Movento – hard on honeybees;

NDSU – breeding program – lines are resistant – leptine resistance from Chacoense. Most of lines now have some resistance. Cornell materials have granular trichomes. Now have the 2 traits stacked in NDSU lines. Researchable topic to see if the insects will develop resistance to both (which would be a problem....)

Discussion on trapping aphids. Mid to late June til end of August -

Fertility

Emphasis – NDSU – N studies on irrigated processed potatoes 18 varieties and 5 different N 0 to 300 treatments, one row plots, Used to screen varieties

2010 – only 3 varieties – RB Alpine Trailblazer

Irrigation and water use – some areas are looking at variety selection based on lower water use.

Industry needs – physiological effects of treatments – impact of early water stress on vine weight and vine size – is it N or water

No clear demarcation between vegetative and reproductive growth. When does vine senesce?
Would harvest index help?

How to manage crop most effectively during changing conditions. NUE – 1-2.2 lb N/100lbs tubers.

Use of controlled release N to help mitigate weather problems and potentially reduce N leaching.

Fertigation 10-15 lb N/A (some may go higher) at the beginning then more spoon-feeding at the end 5-6 lbs/A. If too hot then get excessive vine growth. Should cut back on N. Need more P, K, data for ND. Not pressing need but would like to data. Especially with rising fertilizer costs.

Discussed K effects on specific gravity and P effects on tuber set.

Dry land work can back off on N???

Irrigation – remote sensing – Moisture sensors – are they useful? Need to compare the different sensors to see which ones work the best.

Bushland station cotton different water sensors - also see Sowacs website to see differences among sensors.

ET network to determine water needs during the season. Best vehicle to deliver info – cellphone? Paper newsletter? Online

Diseases:

Corky ringspot – no resistance in commercial varieties. Nematode vectored. Introduced 10-15 years ago on seed. Can be managed with fumigation – not with Vapam though – need to use Telone. Vydate is effective – in furrow and foliar applications and needs to be used every year potatoes are grown. Rotation does not help much because the nematode can live in the vicinity of a variety of host crops including corn, small grains, soybeans etc. No symptoms or infection with the rotation crops. Nematodes prefer sandy soils over clay soils. Does not get worse in storage if tubers are not cut.

Can be confused with moptop virus vectored by powdery scab. Also looks like tomato spotted wilt virus. Confirm by PCR can't use elisa. To prevent spread, make sure that seed is clean. Don't buy seed from areas where the virus has been detected.

Breeding for resistance – from NW breeding program incorporated into ND program – some crossing issues.

Late blight: all 4 regional breeding programs working on LB resistance. No lines completely resistance. 492 lines evaluated and none completely resistant. There is a difference between foliar LB and tuber LB. Need to control by chemical application.

Virus – PVY, where can we grow clean seed? It is becoming a problem. Base growers have a problem. Some lost entire G1 block. Need to control aphids better. Monitor with traps?

Verticillium - Early die: not addressed that well from

Scab: Also still a problem in WI – chloropic. On

Most important disease – growers

Cavendish - Pink rot

Simplot – Pink rot

RDO – early die – especially with Vapam restrictions, PVY (not sure what strain to deal with)

Zebra chip – Nebraska, Mexico, Texas, Colorado (traces) – caused by liberibacter and spread by psyllids – transferred through the egg stage. Not a problem in ND yet. It is seed borne but not an efficient way to transmit it. Heat adverse. May never be a problem in MN WI MI, too humid. Psyllids can be controlled by chemicals, but resistance is a problem.

Extension activities and action items to promote sustainable potato practices

Insects:

1. Aphid trapping network for seed producing areas
2. Beetle resistance problem need to collect samples through the region - map

Fertility and Irrigation:

1. More P and K research esp in ND
2. Moisture sensor comparison
3. Moisture management in general
4. How dependable is petiole nitrate? Is there a better way for inseason monitoring
5. How N management affect partitioning of carbohydrates in tuber

Weeds

1. Manual of symptoms from herbicide carryover
2. Glyphosate problems – need to talk with commodity growers that use Glyphosate – drift is a problem.

Diseases

1. Variety development for disease resistance esp. early dying.
2. Determine best sequence of potato varieties based on inoculums. How to deal with resistant varieties like Trailblazer and Premier.
3. Further soil testing to determine range of the stubby root nematodes (risk of corky ringspot).
4. Determine where the new late blight genotypes (A22, A24) come from virulent they are on the tubers
5. Educate the greenhouse industry about the LB problem in transplants

Breeding

1. Possibility of a breeder tour – need to work out the details though

Carl Rosen new president for 2011

AJ nominated as next president and unanimously in favor

What to do for next year?

Format Ok – ½ Thursday and ½ day Friday

Mid-March timeframe

Use same format – large group discussions

Special topics for next year –

Discussed - SCRI projects that have been funded – zebra chip (Neal G.)

Maintain a database for the group. NDSU is the administrator

Motion to adjourn 11:58 am