Growing Forward 2
A federal-provincial-territorial initiative

Blueberry Fertilization Demonstration Trials

November 20, 2014
BC Blueberry Council Field Day

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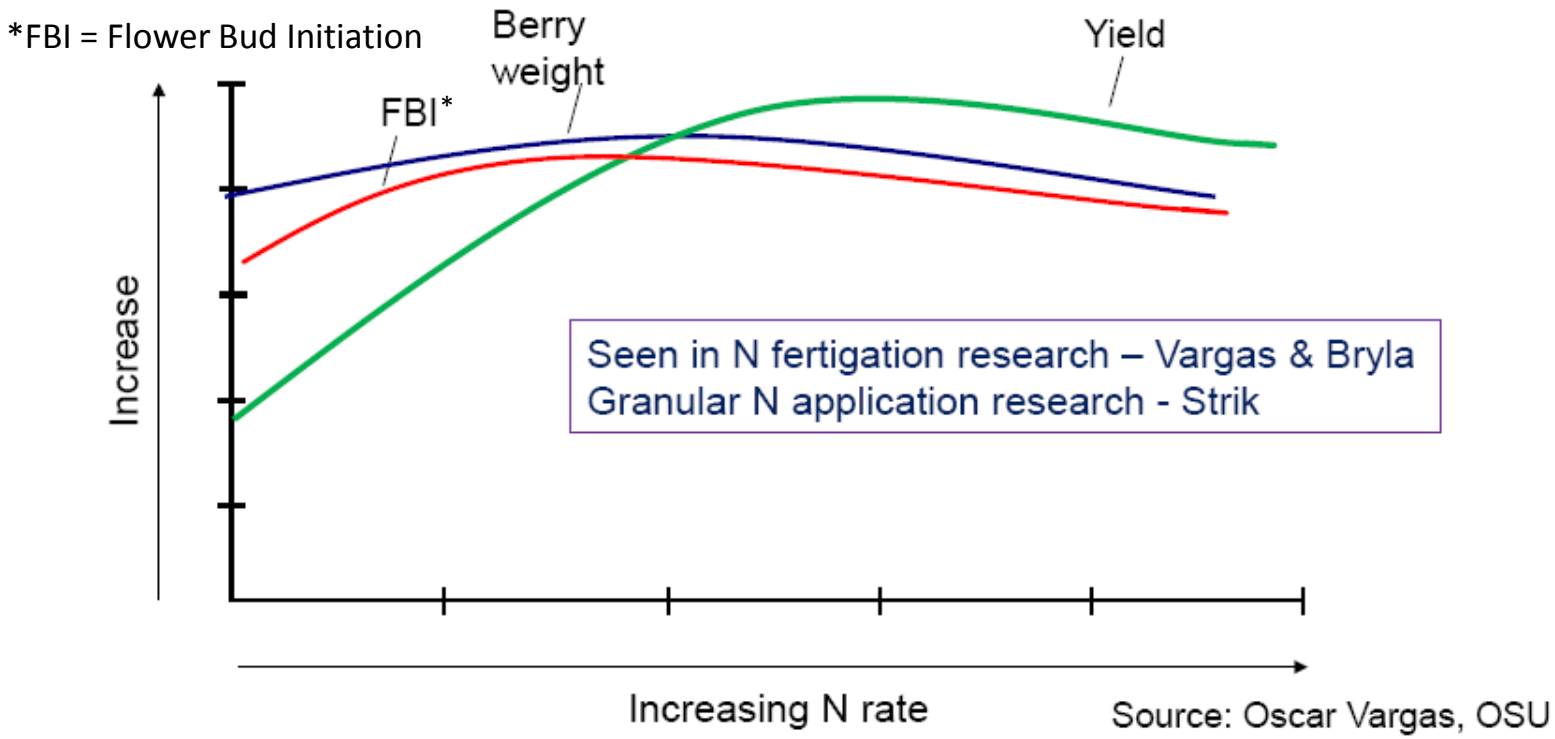
Introduction



Source: Strik, B. Nutrient management in raspberry and blueberry. Presentation at 2013 Washington Small Fruit Conference
http://whatcom.wsu.edu/ag/edu/sfc/2013presentations.html

Objectives

- Determine the effect of changing nitrogen (N) rates and number of applications on blueberry bud set and yield
- Observe leaf N and mineral N in soil, and determine whether they explain treatment effects on blueberry bud set and yield

Methods - Duke trial (8-yr old planting)

- Base granular fertilizer on April 11, 2014
  - 171 lb N/acre
- 4 treatments, each with a different number of drips @ 13.3 lb N/acre per drip

Treatment	May 4	May 12	May 19	May 26	Total N (lbs/ac)
0 Drips					171
1 Drip			•		184.3
3 Drips		•	•	•	210.9
4 Drips	•	•	•	•	224.2

Methods - Reka trial (12-yr old planting)

- Base granular fertilizer on April 11, 2014
  - 50 lb N/acre
- 3 treatments with a different number of drips @ 13.3 lb N/acre per drip

Treatment	May 12	May 19	Total N (lbs/ac)
0 Drips			50
1 Drip		•	63.3
2 Drips	•	•	76.6

Bud Set and Flower Counts

- 4 rows for each treatment
- Baseline data in 2014

Yield and Fruit Size

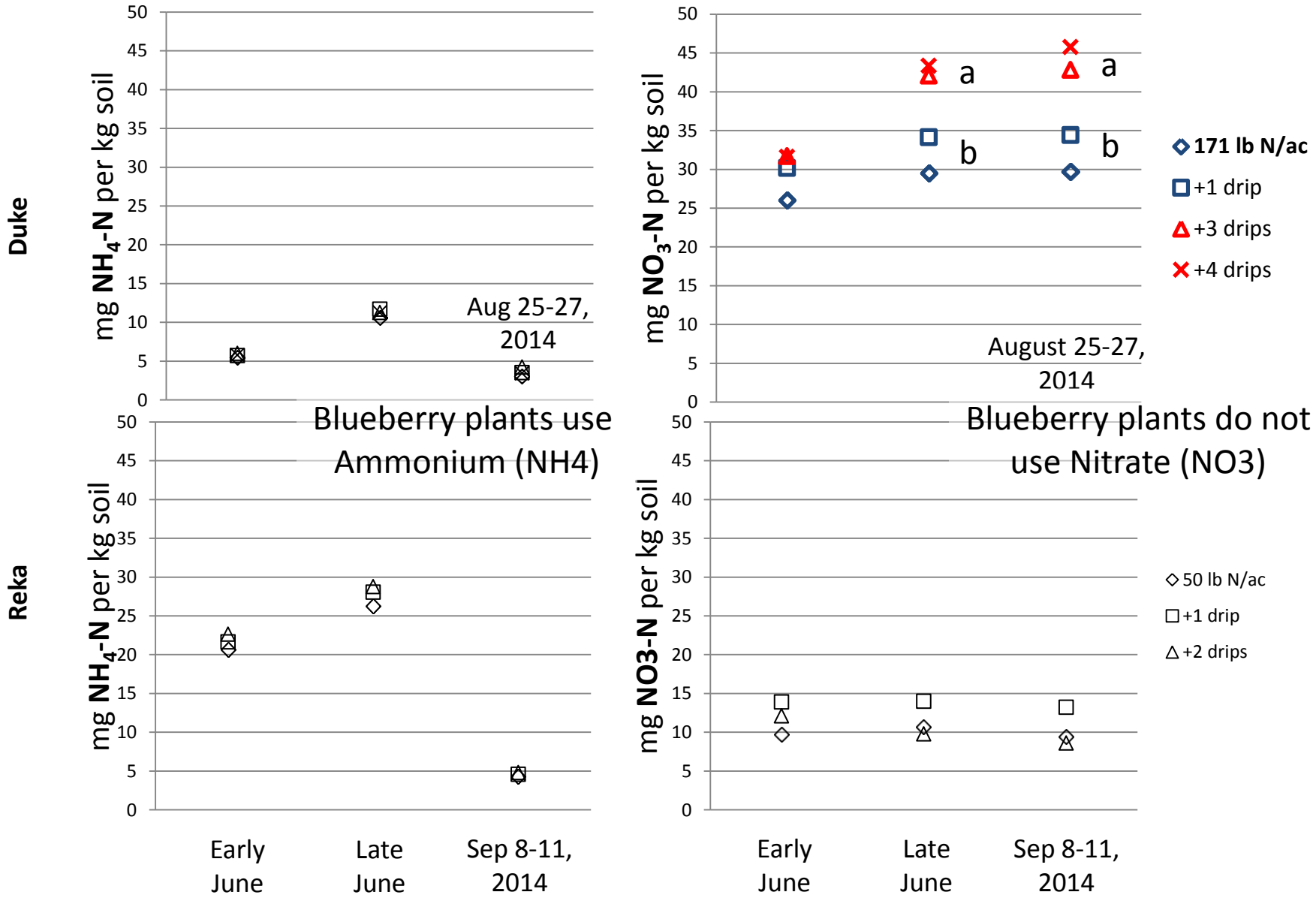
- Yield from each row of the experiment
- Fruit weight sampled x 3 from each of 10 plants in each row
- In 2015 and beyond:
  - Can we increase yield by improving bud-set?
  - How does this relate to soil/tissue nitrogen?

Methods

Soil sampling

Leaf tissue

Preliminary results for soil nitrogen: ammonium (NH_4) and nitrate (NO_3) at 0-30 cm depth



Discussion

Ammonium NH_4

Nitrate NO_3

There's *potential*, esp. in the Duke trial, to avoid excess N by decreasing N rates or adjusting timing of N fertilization.

Expected Outcomes

Avoid reduced bud set

Avoid excess N uptake

Ammonium NH_4

Nitrate NO_3

In the long term, optimizing N may save fertilizer $ and prevent losses in yield potential.

The project is funded in part through *Growing Forward 2,* a federal-provincial-territorial initiative.

We thank the blueberry growers for their cooperation and the BC Blueberry Council for their assistance with outreach.

Growing Forward 2
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BC Blueberries Nature's Candy

British Columbia

Canada

Corrections and Updates

- The original presentation indicated the Reka plants were 18 years old at the time of the presentation. They were 12.
- Slide 9 was updated after the presentation with comments that were provided verbally.