Canola Research Update 2011

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Sustainable Cropping Systems for Dairy Farms in the Northeastern US

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**Project Goal:**

Sustainably produce all forage, feed, & tractor fuel needs for a 65 milking cow herd, 240 acre PA dairy farm.
Winter canola to provide cover, fuel, & feed, & use manure in late summer and fall
Comparing 2 strategies for integrating canola into a dairy crop rotation
Canola grown after alfalfa yielded 400 lb/A (26%) more

- Despite 10 T/A more liquid dairy manure, canola after corn silage, plant tissue N was < sufficient
Canola seed lost during harvest was 35 - 40% of total produced.
2011 Fall: planted after alfalfa, mid-Sept. poor stands
- few sunny days, cool weather & high slug-activity

most slugs are largest in fall
2010 & 2011 planted canola Sept. 10-16

Figure 14: Slug activity-density in corn plots, by rotation.
from Margaret Douglas for NESARE Dairy Corn 2011
Plant earlier in 2012 to reduce slug damage in canola

Figure 14: Slug activity-density in corn plots, by rotation. from Margaret Douglas for NESARE Dairy Corn 2011
To reduce slug damage:

- plant Canola earlier,
  ~ mid-August
- likely reduce alfalfa harvest
2011
No Canola was planted after Corn Silage

- wet weather delayed harvest, manure application
- planted rye cover crop
  will plant spring canola soon
FORAGE ROTATION: Proposed Rotation Change for Earlier Canola Planting

MANURE MANAGEMENT COMPARISON

Broadcast Manure

Inject Manure

FORAGE ROTATION: manure management, green manure species comparison, standard herbicide regime, & IPM for insect pests
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Kern Kraft Oilseed Press

Photo: Douglas Schaufler
2011 pressed canola at lower moisture than in 2010, meal:
  - protein was 5% higher
  - fat was 8% lower

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Summary

• Alfalfa supplied N better than liquid dairy manure
• Harvest losses were significant

• Canola planted after plow vs. no-till
  – reduced plant populations
  – 2 x slug-activity density

• Will evaluate planting ~ month earlier to avoid peak slug activity

• Cold-press canola at 5.5-7% moisture:
  – more oil, meal higher % protein, lower % fat

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