THE MINNESOTA PROJECT
OPP Eradication Trial
Fall 2013 — Fall 2017

Rob Goerger — Jct. 75 & 212 Ovine Ranch — Madison, MN
COMMERCIAL FLOCK — 400 WHITEFACE EWES

• Whiteface replacements home bred: Dorset; Finn x Dorset; Finn x Polypay

• Rams purchased: both maternal (Polypay) (Finn x Dorset) and terminal sires

• Carefully selected over 20 years; 200% lamb crop now typical

• Accelerated flock is enrolled in the Pipestone Management Program

• Groups lamb in January/February, March, May and October

• Replacement ewe lambs selected from those born in Winter and Fall

• Various barns; ewe flock pastured in season

• Replacement ewe lambs raised in dry lots; market lambs in confinement

Rob Goerger - Jct 75 & 212 Ovine Ranch - December 2017
OPP SYMPTOMS AND INITIAL TEST RESULTS

OBSERVED OPP SYMPTOMS:

• Hard udder; both sides uniformly firm
• Little or no milk; some ewes could not raise twins
• Weight loss despite good appetite

BEGINNING TEST STATUS OF THE EWE FLOCK:

• No testing done prior to the Trial
• Adult ewes 42% OPP positive on partial-flock test
• Large group of purchased ewes 64% positive

BEGINNING TEST STATUS OF RAMS:

• All 8 rams were genetically less-susceptible, and also test-neg
  —one turned pos at 4 years following exposure to test-pos ewes —
OUR REPORT FOR 2017 LAMBING GROUPS

JAN-FEB (OPP-negative ewes): our first 200% crop for this time of year
- All ewes had soft udders and lots of milk; cull rate cut in half
- Lamb death loss birth to market lowest we’ve ever had
- Weaning weight average in the 50# range; all whiteface lambs

APRIL (OPP-positive ewes): our biggest lamb crop ever at 233%
- Many ewes not able to feed a 2nd lamb, much less a 3rd; large cull rate
- 50% increase in lamb death loss birth to market compared to neg ewes
- Avg weaning weight 4# lower than from neg ewes; terminal-sired lambs

MAY (OPP-positive ewes): the usual 200% lamb crop
- The usual lack of colostrum, plus an even larger cull rate
- 100% increase in death loss birth to market compared to neg ewes
- Avg weaning weight 7# lower than from neg ewes; terminal-sired lambs

Rob Goerger - Jct 75 & 212 Ovine Ranch - December 2017
PRODUCTION OF OPP-POS VS. NEG EWES
ALL 4 POLYPAY-SIRED EWES BORN IN 2013 — OUT OF FINN X DORSET DAMS

**OPP test-negative Ewes**

<table>
<thead>
<tr>
<th>RED 384- (lbs weaned/year)</th>
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<tbody>
<tr>
<td>JAN 2017 — 3 — 87#</td>
<td>Avg</td>
<td></td>
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<tr>
<td>MAY 2016 — 3 — 101#</td>
<td>94#</td>
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<tr>
<td>SEPT 2015 — 1 — 69#</td>
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<tr>
<td>JAN 2015 — 2 — 108#</td>
<td>Avg</td>
<td>73#</td>
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<td>MAR 2014 — 2 — 42#</td>
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<th>RED 389- (lbs weaned/year)</th>
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<td>JAN 2017 — 2 — 94#</td>
<td>Avg</td>
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<tr>
<td>MAY 2016 — 2 — 119#</td>
<td>107#</td>
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<td>OCT 2015 — 1 — 55#</td>
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<tr>
<td>JAN 2015 — 2 — 106#</td>
<td>Avg</td>
<td>82#</td>
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<tr>
<td>MAR 2014 — 2 — 86#</td>
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Avg lbs weaned = 87# (per ewe/per year)

**OPP test-positive Ewes**

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<tr>
<th>RED 362+ (lbs weaned/year)</th>
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<tr>
<td>MAY 2017 — 3 — 76#</td>
<td>Avg</td>
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<tr>
<td>SEPT 2016 — 2 — 65#</td>
<td>71#</td>
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<tr>
<td>JAN 2016 — 2 — 111#</td>
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<tr>
<td>MAR 2015 — 1 — 74#</td>
<td>Avg</td>
<td>80#</td>
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<td>MAR 2014 — 2 — 55#</td>
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<tr>
<th>RED 398+ (lbs weaned/year)</th>
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<tr>
<td>APR 2017 — 3 — 83#</td>
<td>Avg</td>
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<tr>
<td>JAN 2016 — 2 — 64#</td>
<td>74#</td>
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<tr>
<td>MAR 2015 — 2 — 96#</td>
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<tr>
<td>MAR 2014 — 2 — 33#</td>
<td>Avg</td>
<td>65#</td>
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Avg lbs weaned = 73# (per ewe/per year)

Rob Goerger - Jct 75 & 212 Ovine Ranch - December 2017
HOW MUCH DOES IT COST TO ERADICATE OPP?
— YOUR MILEAGE MAY VARY —

Eradication costs — for OUR FLOCK — WITHOUT the $$$ ADVANTAGE of
the Trial — and IF WE HAD COLLECTED THE BLOOD SAMPLES OURSELVES

Based on:
- supplies at $1 per test +
- VDL accession fee of $10 per lot submitted +
- $6 per test (does not include veterinarian fee to collect samples)

400 ewes (64% infected at start; all positives will be gone by mid-2018)

Cost to-date would have been $11,634 = $29 per ewe

— This is a one-time cost per test-negative ewe —

What do you pay for each bag of milk replacer?

Rob Goerger - Jct 75 & 212 Ovine Ranch - December 2017
OPP NEGATIVE EWES AT BUNK EATING CORN
LAMBS IN THIS PEN 2-3 WEEKS OLD — NOTICE THEM NOT SNITCHING FOR MILK
86 HEAD OF 2017 WINTER-BORN EWES
FREE-CHOICE ACCESS TO QUALITY HAY 24/7
SOUTH END PEN IN NEWER FINISHING BARN
ALL LAMBS IN THIS PEN ARE NEAR MARKET READY

Rob Goerger - Jct 75 & 212 Ovine Ranch - December 2017
NORTH END PEN IN THE FINISHING BARN
MAY-BORN SPECKLE-FACE LAMBS — SORTED/PENNED BY WEIGHT

Rob Goerger - Jct 75 & 212 Ovine Ranch - December 2017
WATERER SHARED BY ADJACENT GROUPS

FENCE PANELS SURROUNDING THIS AUTOMATIC WATERER HAVE BEEN WALLED SOLID TO PREVENT NOSE-TO-NOSE CONTACT BETWEEN GROUPS PENNED ON OPPOSITE SIDES OF THE FENCE

Rob Goerger - Jct 75 & 212 Ovine Ranch - December 2017
ONE OF OUR LAMBING JUGS
BUILT-IN FEEDER BOX AND CONTINUOUS WATER TUBE
— HOLE IN WALL ALLOWS WATER ACCESS FROM ADJACENT PEN —
LAMMING BARN WITH JUGS, DROP & CREEP PENS

BARN HAS FRESH-AIR INLETS, EXHAUST FANS, BUILT-IN FEED BUNK
LAST REMAINING GROUP OF OPP POSITIVES

WILL BE CULLED AFTER WEANING THEIR 2019 LAMBS

— NOT AT ALL LOOKING FORWARD TO LAMBING THIS GROUP —
Rob Goerger Family — Madison, Minnesota

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