

**2006 Partial Budget Analysis for the Replacement of Metam Sodium
 by a Mustard Green Manure**

Positive Impacts		Negative Impacts	
Increased revenue¹	per acre	Decreased revenue²	per acre
<i>Total increased revenue</i>		<i>Total decreased revenue</i>	
Decreased costs³	per acre	Increased costs⁴	per acre
Metam sodium application	\$146	Plant mustard	\$49
50 lb N/A fertilizer, at \$0.44/lb	\$22	Roll field	\$3
Irrigate after wheat harvest	\$6	Fertigate	\$46
		Spray weeds	\$23
		Flail chop	\$12
<i>Total decreased costs</i>	\$174	<i>Total increased costs</i>	\$133
Total positive impacts	\$174	Total negative impacts	\$133
		<i>Net Change in income</i>	<u>+\$41</u>

¹ *Increased Revenue*

Not included here is potential increased revenue related to increased tuber quality; specific gravity, reduced defects, etc.

² *Decreased Revenue*

Experience with mustard green manures have not shown any effects that would decrease revenue when compared to fallow.

³ *Decreased costs*

37.5 gallons metam sodium/ac, at \$3.50 per gallon.

A portion of the fertilizer applied to the mustard will be taken up by the following crop, thereby reducing its fertilizer needs. Here this was estimated at 50 lbs/ac (about 50% of the N in the incorporated mustard crop), but will vary according to conditions. Some farmers are finding that they can reduce their N applications by more than this amount.

When following wheat, disking of the stubble and irrigation in preparation for fumigation will not be needed when using a mustard green manure.

Not included here are potential decreased costs related to:

- Improved water infiltration; better distribution of water and associated fertilizers and pesticides, less soilborne disease pressure

- Improved soil tilth; decreased wind erosion, hills keep shape in sandy soils, less dirt harvested with potatoes, increased harvest speeds.
- Keeping nematodes in the surface soil for fall fumigation (vs. dry fallow which drives them deeper)

⁴ *Increased costs*

These are the costs associated with managing a mustard green manure crop. The details used to come up with these costs are shown below:

- Plant mustard, Valmar applicator custom rate \$7.50/ac, 10 lb seed per acre at \$2.35 per lb of seed, 150 lb ammonium sulfate per acre applied with seed at \$0.12 per lb.
- Fertigate, 90 lb N/ac at \$0.47 per lb, and 18 lb S/ac at \$0.20 per lb, \$8 per acre for water, \$18 per acre for power. Water charges will vary widely depending on your situation.
- Spray weeds, 1.65 oz. Select 2EC at \$10 per oz, applied at custom rate of \$7 per ac.
- Flail chop, 200 HP wheel tractor, 15' flail chopper

This analysis does not address the common use of a mustard green manure *with* a fumigant treatment.