COOPERATIVE EXTENSION
WASHINGTON STATE UNIVERSITY
GRANT AND ADAMS AREA

Mustard Green Manures
On-farm Research Results
Measurement: Norkotah Potato Yields after Mustard, with and without Metam Sodium fumigant

Results:

Potato Yields following a Mustard Green Manure Crop, with and without fumigant

Gies On-Farm Trials, 1999 - 2001

1999-2000

1999: White mustard, *S. alba* Martigena planted 8/10/99 and incorporated on 10/25/99

Dry biomass yield:	5564 lb/ac
Biomass N:	93 lb/ac
Wheat residue:	6007 lb/ac
Wheat residue N:	34 lb/ac

2000: Fumigated with metham sodium (Vapam) at end of March at a rate of 37.5 gallons per acre

Russet Norkotah potatoes planted 4/15/00 and harvested on 9/7/00

	Yield	
	Fumigant	No Fumigant
	----------tons/ac[1]----------	
Total (#1s + #2s + culls)	32.03	31.14
Total U.S. #1's (>4oz.)	26.5 (82.7%)	25.5 (81.8%)
<4 oz[2]	3.05	2.58
4-8 oz	9.40	9.40
8-16 oz	14.28	13.94
>16 oz	2.81	2.17
culls and #2s	2.06	2.68

[1] Yields are averages of six paired replications, no significant differences were found

[2] tubers less than 2" in diameter were not harvested

2000-2001

2000: **White mustard**, *S. alba* Martigena planted 8/9/00 and incorporated on 10/24/00

Dry biomass yield: 4773 lb/ac

2001: Fumigated with metham sodium at end of March at a rate of 37.5 gallons per acre

Russet Norkotah (Colorado 8 selection) potatoes planted 4/20/01 and harvested on 9/17/01

Total N applied during growing season: 160 lbs per acre

	Yield	
	Fumigant	No Fumigant
	----------tons/ac[1]----------	
Total (#1s + #2s + culls)	34.59	34.06
Total U.S. #1's (>4oz.)	31.00 (89.6%)	29.34 (86.1%)
<4 oz[2]	3.04	2.85
4-8 oz	7.77	7.30
8-16 oz	18.48	16.89
>16 oz	4.75	5.15
culls and #2s	0.55	1.87

[1] Yields are averages of five paired replications, no significant differences were found

[2] tubers less than 2" in diameter were not harvested

2000: **Oriental mustard**, *B. juncea* Pacific Gold planted 8/9/00 and incorporated on 10/24/00

Dry biomass yield: 5023 lb/ac

2001: Fumigated with metham sodium at the end of March at a rate of 37.5 gallons per acre

Russet Norkotah (Colorado 8 selection) potatoes planted 4/20/01 and harvested on 9/17/01

Total N applied during growing season: 160 lbs per acre

	Yield	
	Fumigant	No Fumigant
	----------tons/ac[1]----------	
Total (#1s + #2s + culls)	31.38	31.90
Total U.S. #1's (>4oz.)	27.59 (88%)	27.71 (87%)
<4 oz[2]	2.25	1.72
4-8 oz	7.82	7.10
8-16 oz	16.15	14.70
>16 oz	3.62	5.91
culls and #2s	1.53	2.47

[1] Yields are averages of five paired replications, no significant differences were found

[2] tubers less than 2" in diameter were not harvested

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Mustard Green Manures On-farm Research Results Measurement: Russet Burbank yields after mustard, with and without metam sodium fumigant

Results:

Potatoes following a Mustard Green Manure Crop, with and without fumigant
Freihe On-Farm Trials, 2001 - 2002

2001-2002

2001: White mustard, *S. alba* Martigena planted 8/24/99 and incorporated on 10/?/99
Dry biomass yield: 2108 lb/ac

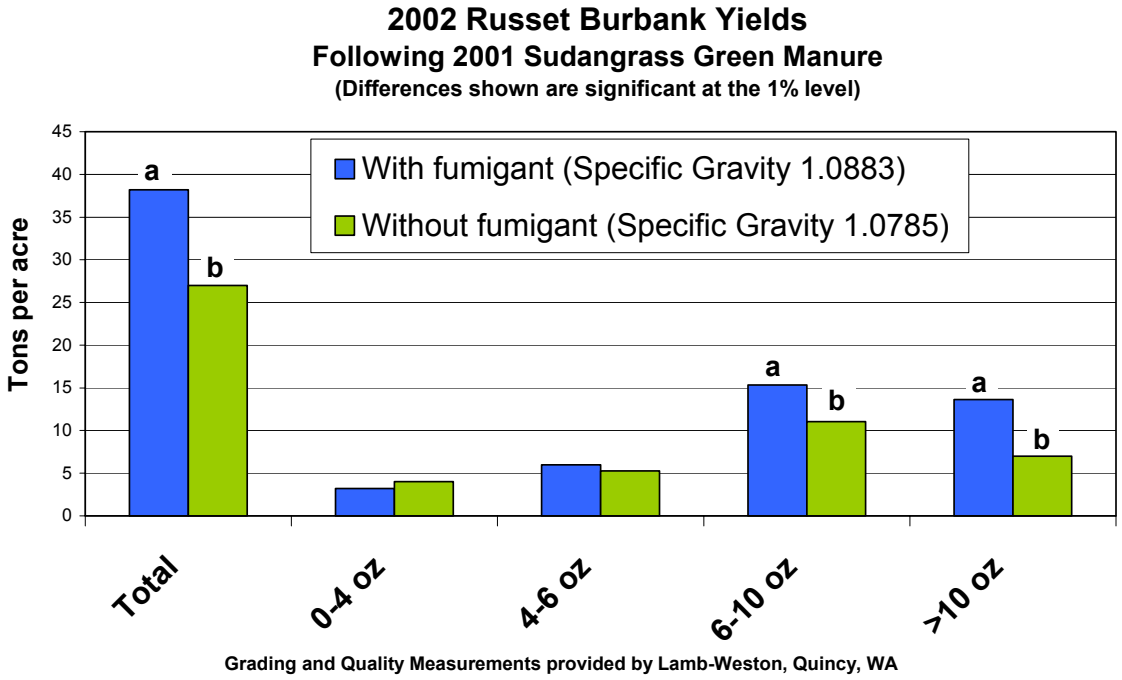
2002: 37.5 gallons per acre of metham sodium applied in 3/27/02
Russet Burbank potatoes planted 4/02 and harvested on 9/30/02

	Yield, tons/ac[1]	
	With Fumigant	**Without fumigant**
Total	34.0	34.0
Culls	3.7	3.7
4-6 oz[2]	5.8	6.1
6-10 oz	13.3	14.6
10-14 oz	4.8	7.1
>14 oz	6.1	2.4
Specific Gravity	1.076	1.081

[1] Total Yields are averages of five paired replications, no significant differences were found . Other measurements were based on bulked samples graded at Simplot, Moses Lake.

[2] tubers less than 2" in diameter were not harvested

Measurement: Russet Burbank yields after sorghum-sudangrass, with and without metam sodium fumigant.



NOTE: Green manure crop was chopped, but then left to sit on the ground for three days because of a mechanical breakdown. Suppression of potato early dying is thought to be due to the incorporation of GREEN plant material, and so the delay in incorporation here may explain the results.