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Nitrogenous fertilisers for cereals: results from 1974 trials with wheat, barley and oats

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Western Australian Department of Agriculture

Nitrogenous Fertilisers for Cereals

Results from 1974 Trials with Wheat, Barley and Oats

M.G. Mason, Research Officer
Plant Research Division

74A1/3156Ex

Rates of Urea x Rates of Seeding Oats for Hay
Avondale Research Station, Beverley

Hay cut - Late milky stage 8/10/73

TREATMENT	HAY YIELD (kg/ha)
1. Oats 50 kg/ha + Urea Nil	2277
2. " 50 " + " 90 kg/ha	2809
3. " 50 " + " 180 "	4093
4. " 75 " + " Nil	2444
5. " 75 " + " 90 kg/ha	3943
6. " 75 " + " 180 "	4496
7. " 100 " + " Nil	2286
8. " 100 " + " 90 kg/ha	3988
9. " 100 " + " 180 "	4935

For trial details - see over page

74A1/3156Ex

Rates of Urea x Rates of Seeding Oats for Hay

Avondale Research Station, Beverley

Date Harvested 10/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Oats 50 kg/ha + Urea Nil	1560
2. " 50 " + " 90 kg/ha	1806
3. " 50 " + " 180 "	1845
4. " 75 " + " Nil	1541
5. " 75 " + " 90 kg/ha	1708
6. " 75 " + " 180 "	1877
7. " 100 " + " Nil	1524
8. " 100 " + " 90 kg/ha	1839
9. " 100 " + " 180 "	2072

Soil Type: Red brown gritty sandy loam.

History: Second successive crop on old clover land. Stubble of previous crop grazed.

Sowing Date: 28/5/74

Crop: Swan oats.

Basal: Superphosphate 112 kg/ha.

Some self sown barley, wheat and wild oats in the plots. Urea rates topdressed by drill immediately before sowing.

74AL4/3156Ex

Rates of Nitrogen and Cereal Hay Production and Quality

H. St. Jack, Woogenellup

Hay Cut - 23/10/74 (Milky Dough)

TREATMENT	HAY YIELD (kg/ha)
1. Wheat - Ammonium Nitrate Nil	5080
2. " - " " 40kg/ha at seeding	6566
3. " - " " 80kg/ha at seeding	7681
4. " - " " 120kg/ha at seeding	7740
5. " - " " 80kg/ha 8 weeks after seeding	7473
6. Oats - " " Nil	8263
7. " - " " 40kg/ha at seeding	8464
8. " - " " 80kg/ha at seeding	9513
9. " - " " 120kg/ha at seeding	11384
10. " - " " 80kg/ha 8 weeks after seeding	9857

For trial details - see over page

74AL4/3156Ex

Rates of Nitrogen and Cereal Hay Production and Quality

H. St. Jack, Woogenellup

Date Harvested 31/12/74

TREATMENT	GRAIN YIELD(kg/ha)
1. Wheat - Ammonium Nitrate Nil	833
2. " - " " 40kg/ha at seeding	852
3. " - " " 80kg/ha at seeding	995
4. " - " " 120kg/ha at seeding	1107
5. " - " " 80kg/ha 8 weeks after seeding	1252
6. Oats - " " Nil	1169
7. " - " " 40kg/ha at seeding	1279
8. " - " " 80kg/ha at seeding	1307
9. " - " " 120kg/ha at seeding	1310
10. " - " " 80kg/ha 8 weeks after seeding	1333

Soil Type: Grey loamy sand over yellow loamy sand at 3cm over very gravelly loamy sand at 30cm.

History: First crop on old clover land.

Sowing Date: 9/5/74

Crops: Falcon wheat 87 kg/ha. Swan oats 95 kg/ha.

Basal: 200 kg/ha copper-zinc-super topdressed + 122 kg/ha super drilled.

Quite a bit of clover under the crop. Early nitrogen applications topdressed by drill immediately before sowing. Later applications topdressed by hand.

Time of Planting & Rate and Time of Application of Nitrogen
for Wheat

Chapman Research Station, Nabawa

Date Harvested 10/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Sown 11/6/74 Urea Nil	1005
2. " " " 56kg/ha - Immediately after seeding	1384
3. " " " 56 " - 2 weeks " "	1474
4. " " " 56 " - 4 weeks " "	1357
5. " " " 112 " - Immediately " "	1563
6. " " " 112 " - 2 weeks " "	1362
7. " " " 112 " - 4 weeks " "	1524
8. Sown 25/6/74 Urea Nil	836
9. " " " 56kg/ha - Immediately after seeding	1011
10. " " " 56 " - 2 weeks " "	1042
11. " " " 56 " - 4 weeks " "	1029
12. " " " 112 " - Immediately " "	1209
13. " " " 112 " - 2 weeks " "	1233
14. " " " 112 " - 4 weeks " "	1193

Soil Type: Red brown loam

History: Second successive crop on old clover land. Stubble of previous crop grazed by cattle and fire harrowed.

Sowing Dates: As in table above.

Crop: Gamenya wheat 50 kg/ha.

Basal: Superphosphate 130 kg/ha.

Plots weed free. Urea hand topdressed. Hand topdressing uneven. Some plots partly grazed by cattle.

74E2/2252Ex

Time of Planting and Rate and Time of Application of Nitrogen
for Wheat

Esperance Downs Research Station, Gibson

Date Harvested 10/12/74

TREATMENT		GRAIN YIELD (kg/ha)
1.	Sown June 7 - Urea Nil	1514 1135
2.	" " - " 56kg/ha - Immediately after seeding	1485 1112
3.	" " - " 56 " - 2 weeks " "	1389 1042
4.	" " - " 56 " - 4 weeks " "	1373 1030
5.	" " - " 112 " - Immediately " "	1545 1159
6.	" " - " 112 " - 2 weeks " "	1404 1053
7.	" " - " 112 " - 4 weeks " "	1326 995
8. Sown June 21 - Urea Nil		1170 878
9.	" " - " 56kg/ha - Immediately after seeding	1280 960
10.	" " - " 56 " - 2 weeks " "	1139 854
11.	" " - " 56 " - 4 weeks " "	1139 854
12.	" " - " 112 " - Immediately " "	1280 900
13.	" " - " 112 " - 2 weeks " "	1217 913
14.	" " - " 112 " - 4 weeks " "	1108 831

Soil Type: Grey gravelly sand over gravel at 15 cm.

History: Second successive crop on old clover land. 1973 -
oaten hay. Regrowth grazed.

Sowing Dates: As in table above.

Crop: Gamanya wheat 50 kg/ha.

Basal: Superphosphate 130 kg/ha.

Plots weed free. Urea topdressed by hand.

74ES31/3153Ex

Nitrogen and Phosphorus for Late Sown Crops

J. Coward, Coomalbidgup

Date Harvested 13/1/75

TREATMENT		GRAIN YIELD (kg/ha)
<u>Early Planting</u>		
1.	Ammonium Nitrate Nil + Superphosphate Nil	1910 1433
2.	" " 38kg/ha + " Nil	1985 1489
3.	" " 76 " + " Nil	2179 1634
4.	" " 114 " + " Nil	1935 1451
5.	" " Nil + " 56kg/ha	2160 1620
6.	" " 38kg/ha + " 56 "	2016 1512
7.	" " 76 " + " 56 "	2232 1674
8.	" " 114 " + " 56 "	2107 1580
<u>Late Planting</u>		
9.	Ammonium Nitrate Nil + Superphosphate Nil	1195 897
10.	" " 38kg/ha + " Nil	1255 941
11.	" " 76 " + " Nil	1208 906
12.	" " 114 " + " Nil	1239 929
13.	" " Nil + " 56kg/ha	1199 899
14.	" " 38kg/ha + " 56 "	1186 890
15.	" " 76 " + " 56 "	1189 892
16.	" " 114 " + " 56 "	1102 826

Soil Type: Grey-yellow sand over gravel at 40 cm.

History: First crop after clover on old land.

Sowing Dates: Early planting 15/7/74. Late planting 23/8/74.

Crop: Clipper barley 55 kg/ha.

Plots weed free. Ammonium nitrate topdressed by drill immediately prior to each time of sowing.

74A3/2251Ex

Rates of Nitrogen on Wheat after Lupins

Avondale Research Station, Beverley

Date Harvested 11/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Nil	2526
2. Ammonium Nitrate 38 kg/ha	2522
3. " " 76 "	2510
4. " " 114 "	2476
5. " " 152 "	2567
6. " " 228 "	2657

Soil Type: Red brown sandy loam.

History: First wheat crop following a lupin crop on old clover land.

Sowing Date: 14/6/74.

Crop: Gamenya wheat 50 kg/ha.

Basal: Superphosphate 100 kg/ha.

Plots weed free. Crop a little patchy. Nitrogen treatments topdressed by drill immediately prior to planting.

74MT17/2251Ex

Rates of Nitrogen on Wheat after Lupins

Mount Barker Research Station

Date Harvested 19/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Nil	2469
2. Ammonium Nitrate 38 kg/ha	2464
3. " " 76 "	2393
4. " " 114 "	2419
5. " " 152 "	2455
6. " " 228 "	2488

Soil Type: Very gravelly sand.

History: First wheat crop after a lupin crop on old clover land.

Sowing Date: 22/5/74

Crop: Gamenya wheat 52 kg/ha.

Basal: Superphosphate 206 kg/ha.

Plots weed free. Nitrogen treatments topdressed by drill immediately prior to planting.

74JE1/2251Ex

Rates of Nitrogen on First Crop After Clover

H. Venn, Jacup

Date Harvested 11/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Super 190 kg/ha	920
2. " 190 " + Ammonium Nitrate 40 kg/ha	974
3. " 190 " + " " 80 "	1142
4. " 190 " + " " 120 "	1259
5. " 123 " + " " 80 "	1133
6. N-P Compound 24:24 - 113 kg/ha (Equiv. Tr 5)	1238

Soil Type: Gravelly sand over gravel at 20 cm - Blue Mallee.

History: First crop on clover land.

Sowing Date: 16/5/74.

Crop: Eagle wheat 60 kg/ha.

A fair amount of Wimmera rye grass in the plots. Ammonium nitrate treatments topdressed by drill immediately prior to planting

74JE2/2251Ex

Rates of Nitrogen on First Crop after Clover

D. Brown, Needilup

Date Harvested 13/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Super 210 kg/ha	2067
2. " 210 " + Ammonium Nitrate 40 kg/ha	1997
3. " 210 " + " " 80 "	1985
4. " 210 " + " " 120 "	1847
5. " 123 " + " " 80 "	1948
6. N-P Compound 24:24 - 110 kg/ha (Equiv. Tr 5)	1770

Soil Type: White gritty sand over grey loam at 15-20 cm over grey loam with siliceous rock.

History: First crop after clover on old land.

Sowing Date: 7/6/74.

Crop: Eagle wheat 60 kg/ha.

Plots well grown and weed free. Ammonium nitrate treatments topdressed by drill immediately prior to planting.

74LG1/2251Ex

Rates of Nitrogen on Wheat

K. Strevett, Beenong

Date Harvested 11/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Nil	676
2. Ammonium Nitrate 38 kg/ha	829
3. " " 76 "	1043
4. " " 114 "	1210
5. " " 152 "	1171
6. " " 248 "	1290

Soil Type: Brown loamy sand over brown sandy clay at 10 cm over fawn coloured clay at 15 cm - Mallee, Broombush and some Ginlet.

History: Second successive crop on new land. Stubble of previous crop was burnt and raked (poor burn).

Sowing Date: 6/6/74.

Crop: Gamenya wheat 50 kg/ha.

Basal: Superphosphate 220 kg/ha.

Plots weed free. Nitrogen treatments topdressed by drill immediately prior to planting.

74LG2/2251Ex

Rates of Nitrogen on Wheat

K. Strevett, Beenong

Date Harvested 11/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Nil	1493
2. Ammonium Nitrate 38 kg/ha	1684
3. " " 76 "	1646
4. " " 114 "	1592
5. " " 152 "	1684
6. " " 248 "	1722

Soil Type: Red brown sandy loam over red clay at 12 cm -
Salmon gum/Gimlet/teatree - broombush.

History: Second successive crop on new land. Stubble of
previous crop was burnt.

Sowing Date: 6/6/74.

Crop: Gamenya wheat 45 kg/ha.

Basal: Superphosphate 220 kg/ha.

Plots weed free. Nitrogen treatments topdressed by drill
immediately prior to planting.

74LG3/2251Ex

Rates of Nitrogen on Wheat

C. Fisher, Lake Grace

Date Harvested 11/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Nil	1057
2. Ammonium Nitrate 42 kg/ha	1129
3. " " 77 "	1190
4. " " 108 "	1200
5. " " 144 "	1190
6. " " 216 "	1190

Soil Type: Orange-brown loamy sand with a little gravel over dense weathered gravel at 20-25 cm.

History: First crop on new land - non fallow.

Sowing Date: 9/5/74.

Crop: Falcon wheat 50 kg/ha.

Basal: Copper-zinc-molybdenum super No. 1 mix at 240 kg/ha.

Nitrogen treatments topdressed by drill immediately prior to planting.

74LG6/2251Ex

Nitrogen and Potassium on Wheat and Cereal Rye (Deep Sand)

B. Eyres, West Kulin

Date Harvested 16/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Wheat - Ammonium Nitrate Nil	195
2. " - " " 65kg/ha	317
3. " - " " 130 "	410
4. " - " " 200 "	314
5. " - " " 200 " + Muriate of Potash 50 kg/ha	557
6. " - " " 200 " + Muriate of Potash 75 kg/ha	686
7. Cereal Rye - Ammonium Nitrate Nil	343
8. " " - " " 65kg/ha	486
9. " " - " " 130 "	695
10. " " - " " 200 "	652
11. " " - " " 200 " + Muriate of Potash 50kg/ha	729
12. " " - " " 200 " + Muriate of Potash 50kg/ha	795

Soil Type: White sand over gravel at 12-68 cm.

History: First crop on new land - now fallow.

Sowing Date: 4/6/74.

Crops: Gamenya wheat 45 kg/ha. Cereal Rye 75 kg/ha.

Basal: Superphosphate 200 kg/ha + Copper sulphate 3 kg/ha.

Nitrogen and potash treatments topdressed by drill immediately prior to planting.

74N01/912Ex

Late Nitrogen for Poor Crops

A.G. Hinkley, Quairading

Date Harvested 5/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Nil	890
2. Ammonium Nitrate 38kg/ha - topdressed 6/8	933
3. " " 76 " - " "	964
4. " " 114 " - " "	996
5. " " 152 " - " "	977
6. " " 38 " - " 20/8	1030
7. " " 76 " - " "	921
8. " " 114 " - " "	958
9. " " 152 " - " "	996
10. " " 38 " - " 3/9	880
11. " " 76 " - " "	771
12. " " 114 " - " "	890
13. " " 152 " - " "	908

Soil Type: Grey sand over sandy gravel at 55 cm.

History: First crop after clover on old land.

Sowing Date: 30/5/74.

Crop: Gamenya.

Basal: Superphosphate 120 kg/ha + Agras 18:18 plus - 85 kg/ha.

Plots very weedy - capeweed. Nitrogen treatments topdressed by hand.

74N02/912Ex

Late Nitrogen for Poor Crops

F.M. Smith & Co., Quairading

Date Harvested 5/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Nil	687
2. Ammonium Nitrate 38kg/ha - topdressed 6/8	1017
3. " " 76 " - " "	1308
4. " " 114 " - " "	1498
5. " " 152 " - " "	1507
6. " " 38 " - " 20/8	902
7. " " 76 " - " "	1189
8. " " 114 " - " "	1167
9. " " 152 " - " "	1242
10. " " 38 " - " 3/9	765
11. " " 76 " - " "	896
12. " " 114 " - " "	949
13. " " 152 " - " "	852

Soil Type: Grey-brown sand over pale yellow sand at 5 cm.
Sandy gravel at 45 cm.

History:

Sowing Date:

Crop: Gamenya

Basal:

Plots weed free. Nitrogen treatments topdressed by hand.

74WH2/912Ex

Time of Application of Ammonium Nitrate on Barley

Wongan Hills Research Station

Date Harvested 5/12/74

TREATMENT	GRAIN YIELD (kg/ha)
1. Nil	1508
2. Ammonium Nitrate 76kg/ha - topdressed immediately after seeding	1587
3. " " 76 " - topdressed 2 weeks after seeding	1637
4. " " 76 " - topdressed 4 weeks after seeding	1538
5. " " 76 " - topdressed 6 weeks after seeding	1319
6. " " 76 " - topdressed 8 weeks after seeding	1438
7. " " 152 " - topdressed immediately after seeding	1776
8. " " 152 " - topdressed 2 weeks after seeding	1677
9. " " 152 " - topdressed 4 weeks after seeding	1379
10. " " 152 " - topdressed 6 weeks after seeding	1260
11. " " 152 " - topdressed 8 weeks after seeding	1329

Soil Type: Wongan yellow loamy sand.

History: Second successive crop on old clover land. Stubble of the previous crop burnt.

Sowing Date: 12/6/74.

Crop: Clipper barley 52 kg/ha.

Basal: Superphosphate 105 kg/ha.

Plots weed free. Ammonium nitrate treatments topdressed by hand.

61M11/1378Ex

Continuous Cropping Wheat with Nitrogenous Fertilisers

Merredin Research Station

Date Samples 23-24/9/74

Area Sampled = 6 Quadrats
(ea 61cm x 71cm)

Wheat + Ryegrass tops

1961 - 1972 TREATMENT	D.M. YIELD (kg/ha)
1. Super 150lb/ac	1171
2. " 150 "	1270
3. " 150 " + Calcium Ammonium Nitrate 56lb/ac	1329
4. " 150 " + " " " 112 "	1270
5. " 150 " + " " " 168 "	1190
6. " 150 " + " " " 224 "	1488
7. " 150 " + " " " 336 "	1825
8. " 150 " + " " " 336 " + Trace Elements	1885
9. " 150 " + Sulphate of Ammonia 56lb/ac	1230
10. " 150 " + " " " 112 "	1190
11. " 150 " + " " " 168 "	1230
12. " 150 " + " " " 224 "	1448
13. " 150 " + " " " 336 "	1131
14. " 150 " + " " " 336 " + Trace Elements	992
15. " 150 " + Urea 25lb/ac	1210
16. " 150 " + " 50 "	1310
17. " 150 " + " 75 "	1429
18. " 150 " + " 100 "	1389
19. " 150 " + " 150 "	1508
20. " 150 " + " 150 " + Trace Elements	1786
21. " 100 " + " 150 " + " "	1806

Soil Type: Grey gravelly sand.

History: Fourteenth successive crop on old land after non legume pasture. Stubble of previous crop burnt.

Sowing Date: 30/5/74.

Crop: Gamenya wheat 48 kg/ha.

The treatments were applied each year from 1961 - 1972. No treatments were applied in 1973 or 1974 except for a basal of 168 kg/ha super and 70 kg/ha Ammonium nitrate in 1973. No nitrogen in 1974. All plots very weedy - Wimmera rye grass.

73GL1/1378Ex

Evaluation of Reason for Poor Growth with Continuous High
Sulphate of Ammonia

Glasshouse, South Perth

Chemical analyses of plant tops from the glasshouse trial carried out on soil from 61WH2 (Wongan Hills Research Station) where treatments receiving 376 kg/ha Sulphate of Ammonia each year from 1961 - 1972 have given depressed yields associated with a lowered soil pH. The dry matter production was reported in the 1973 report. Lime had given a highly significant dry matter increase.

TREATMENT	Al p.p.m.	P %	Mn p.p.m.	Fe p.p.m.	Ca %	Mg %	K %
1. Nil	150	0.33	140	200	0.37	0.10	4.75
2. Lime (L) - 5 tonnes/ha	70	0.35	118	170	0.47	0.12	4.65
3. Calcium Sulphate (Ca) - 200kg/ha	106	0.32	136	132	0.36	0.09	4.82
4. Magnesium Sulphate(Mg) - 200kg/ha	116	0.35	142	132	0.33	0.13	4.77
5. Potassium Sulphate (k) - 200kg/ha	104	0.35	136	116	0.30	0.08	5.03
6. L + Ca	106	0.35	116	124	0.47	0.10	4.75
7. L + Mg	86	0.38	130	106	0.49	0.15	4.82
8. L + K	62	0.32	132	108	0.42	0.10	5.11
9. Ca + Mg	156	0.33	136	131	0.38	0.15	4.51
10. Ca + K	88	0.34	140	102	0.33	0.08	5.00
11. Mg + K	136	0.31	128	113	0.29	0.13	4.88
12. L + Ca + Mg	74	0.37	118	101	0.46	0.14	4.86
13. L + Ca + K	98	0.40	118	114	0.42	0.10	5.03
14. L + Mg + K	64	0.34	116	98	0.37	0.11	5.09
15. Ca + Mg + K	105	0.34	144	112	0.34	0.12	5.08
16. L + Ca + Mg + K	56	0.34	118	94	0.37	0.11	5.05

73GL1/1378Ex

Evaluation of Reason for Poor Growth with Continuous High
Sulphate of Ammonia

Glasshouse, South Perth

Chemical analysis of plant tops from the glasshouse trial carried out on soil from 61M11 (Merredin Research Station), where treatments receiving 376 kg/ha Sulphate of Ammonia each year from 1961 - 1972 have given depressed yields, associated with a lowered soil pH. The dry matter production was reported in the 1973 report. Lime had given a highly significant dry matter increase.

TREATMENT	Al. p.p.m.	P %	Mn p.p.m.	Fe p.p.m.	Ca %	Mg %	K %
1. Nil	250	0.45	162	142	0.44	0.10	5.09
2. Lime (L) - 5 tonnes/ha	148	0.55	134	128	0.58	0.12	4.64
3. Calcium Sulphate (Ca) - 200kg/ha	260	0.42	164	140	0.42	0.09	4.99
4. Magnesium Sulphate (Mg) - 200kg/ha	218	0.42	150	136	0.37	0.13	5.05
5. Potassium Sulphate (K) - 200kg/ha	252	0.40	158	138	0.34	0.08	5.01
6. L + Ca	124	0.49	130	105	0.53	0.12	4.32
7. L + Mg	134	0.52	126	109	0.50	0.14	4.32
8. L + K	78	0.52	120	108	0.47	0.10	5.41
9. Ca + Mg	188	0.42	154	120	0.38	0.14	5.12
10. Ca + K	250	0.41	156	146	0.36	0.09	5.35
11. Mg + K	180	0.45	150	150	0.31	0.12	5.43
12. L + Ca + Mg	102	0.48	122	116	0.48	0.15	4.60
13. L + Ca + K	136	0.53	124	124	0.45	0.10	5.41
14. L + Mg + K	106	0.49	118	116	0.42	0.13	5.43
15. Ca + Mg + K	182	0.45	150	118	0.31	0.11	5.39
16. L + Ca + Mg + K	116	0.45	132	110	0.44	0.11	5.28

74AL5/3156Ex

Rates of Nitrogen on Oats, Grazed and Cut for Hay

C. Pailthorpe, Narrikup

Date Sampled 15/7/74

Area sampled 6 Quadrats (61cm x 178cm)

Dry wt. of oat tops

TREATMENT	DRY WEIGHT (kg/ha)
1. Ammonium Nitrate Nil	1015
2. " " 73kg/ha	1056
3. " " 148 "	1302
4. " " 302 "	1518
5. " " Nil	954
6. " " 73kg/ha	1230
7. " " 148 "	1296
8. " " 302 "	1276
9. " " Nil	963
10. " " 73kg/ha	1236
11. " " 148 "	1307
12. " " 302 "	1566
13. " " Nil	1003
14. " " 73kg/ha	1229
15. " " 148 "	1515
16. " " 302 "	1364

Overall Means: Ammonium Nitrate Nil - 984kg/ha
" " 73kg/ha - 1188 "
" " 148 " - 1355 "
" " 302 " - 1431 "

Soil Type: Gravelly sand over gravel.

History: Clover land.

Sowing Date: 13/5/74.

Crop: Swan Oats 130 kg/ha. Basal: 3:2 Super-Potash 300kg/ha.

Ryegrass harrowed in by farmer. First applications of Ammonium Nitrate topdressed by drill immediately before seeding.

74AL5/3156Ex

Rates of Nitrogen on Oats, Grazed and Cut for Hay

C. Pailthorpe, Narrikup

Date Sampled 23/10/74

Dry Weight - Oats and Ryegrass Tops

TREATMENT	DRY WT. (kg/ha)
1. Ammonium Nitrate Nil	9546
2. " " 73kg/ha - at seeding	9846
3. " " 148 " - " "	10091
4. " " 302 " - " "	10328
5. " " Nil + 73kg/ha - after grazing (1/8/74)	12228
6. " " 73kg/ha + 73 " - after grazing	12579
7. " " 148 " + 73 " - " "	12577
8. " " 302 " + 73 " - " "	12411
9. " " Nil + 147 " - " "	13676
10. " " 73kg/ha + 147 " - " "	12877
11. " " 148 " + 147 " - " "	11032
12. " " 302 " + 147 " - " "	12268
13. " " Nil + 294 " - " "	11592
14. " " 73kg/ha + 294 " - " "	13409
15. " " 148 " + 294 " - " "	12713
16. " " 302 " + 294 " - " "	14558

Second application of ammonium nitrate topdressed by hand on 1/8/74.

(This trial was carried out as a co-operative trial with W. Cox).