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ROTHAMSTED  
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## Yields of the Field Experiments 1978

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### 78/R/CS/161 Injected N - Old Grass

#### Rothamsted Research

Rothamsted Research (1979) *78/R/CS/161 Injected N - Old Grass* ; Yields Of The Field Experiments 1978, pp 182 - 203 - DOI: <https://doi.org/10.23637/ERADOC-1-30>

78/R/CS/161

INJECTED N

Object: To study the cumulative and residual effects of injecting aqueous urea, with or without a nitrification inhibitor, at three rates and two spacings on the yield and nitrogen uptake of old grass cut for silage - Highfield IX.

Sponsors: F.V. Widdowson, A. Penny, J. Ashworth.

The fourth year, old grass.

For previous years see 76-77/R/CS/161.

Design: 2 randomised blocks of 18 plots split into 2.

Whole plot dimensions: 4.27 x 15.2.

Treatments: All combinations of:-

Whole plots

1. LIQUID N            Liquid nitrogen fertiliser:  
    UREA                Aqueous solution of urea, no nitrification inhibitor  
    UREA+INH            Aqueous solution of urea plus a nitrification inhibitor  
                            (ammonium trithiocarbonate in 1976, sodium trithiocarbonate  
                            in 1977 and 1978)
2. SPACING            Spacing between tines injecting liquid fertiliser:  
    30 CM  
    60 CM
3. N RATE             Rate of liquid fertiliser, applied as a single annual  
                            dressing (kg N):  
    250  
    375  
    500

Sub plots

4. YEARS              Years of application, cumulative when applied:  
    75+6+8                1975, 1976 and 1978  
    75+6+7+8              1975, 1976, 1977 and 1978
- plus six whole plots given 'Nitro-Chalk 25', dressing divided between cuts (kg N, total/annum):
- SOLID N
- 0  
100  
200  
300  
400  
500

with sub plots YEARS as above.

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NOTES: (1) The whole area was grazed in 1975, yields were not taken.  
 (2) Sodium trithiocarbonate was applied at 18 kg to SPACING, 30 CM and at 9 kg to SPACING, 60 CM.

Basal applications: (0:14:28) at 1010 kg. Chalk at 2.9 t.

Cultivations, etc.:— PK applied: 9 Dec, 1977. Chalk applied: 3 Feb, 1978.  
 Aqueous urea and inhibitors injected: 9 Mar. 'Nitro-Chalk' applied six times: 10 Mar, 9 May, 17 June, 11 July, 10 Aug and 8 Sept. Cut: 8 May, 2 June, 10 July, 9 Aug, 8 Sept and 31 Oct.

NOTE: Rates of nitrification of injected N were assessed and grass samples were taken for N determinations.

1ST CUT (5/5/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |        |          |      |      |
|----------|--------|----------|------|------|
| SPACING  | 30 CM  | 60 CM    | MEAN |      |
| LIQUID N |        |          |      |      |
| UREA     | 2.55   | 2.20     | 2.37 |      |
| UREA+INH | 2.51   | 1.96     | 2.24 |      |
| MEAN     | 2.53   | 2.08     | 2.31 |      |
| N RATE   | 250    | 375      | 500  | MEAN |
| LIQUID N |        |          |      |      |
| UREA     | 2.27   | 2.41     | 2.45 | 2.37 |
| UREA+INH | 2.15   | 2.20     | 2.36 | 2.24 |
| MEAN     | 2.21   | 2.30     | 2.40 | 2.31 |
| N RATE   | 250    | 375      | 500  | MEAN |
| SPACING  |        |          |      |      |
| 30 CM    | 2.51   | 2.49     | 2.58 | 2.53 |
| 60 CM    | 1.90   | 2.12     | 2.23 | 2.08 |
| MEAN     | 2.21   | 2.30     | 2.40 | 2.31 |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN |      |
| LIQUID N |        |          |      |      |
| UREA     | 2.50   | 2.25     | 2.37 |      |
| UREA+INH | 2.28   | 2.20     | 2.24 |      |
| MEAN     | 2.39   | 2.22     | 2.31 |      |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN |      |
| SPACING  |        |          |      |      |
| 30 CM    | 2.64   | 2.41     | 2.53 |      |
| 60 CM    | 2.13   | 2.03     | 2.08 |      |
| MEAN     | 2.39   | 2.22     | 2.31 |      |

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1ST CUT (5/5/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|            |        |          |          |          |          |          |          |
|------------|--------|----------|----------|----------|----------|----------|----------|
| YEARS      | 75+6+8 | 75+6+7+8 | MEAN     |          |          |          |          |
| N RATE     |        |          |          |          |          |          |          |
| 250        | 2.13   | 2.28     | 2.21     |          |          |          |          |
| 375        | 2.35   | 2.26     | 2.30     |          |          |          |          |
| 500        | 2.69   | 2.12     | 2.40     |          |          |          |          |
| MEAN       | 2.39   | 2.22     | 2.31     |          |          |          |          |
| SPACING    | 30 CM  |          |          | 60 CM    |          |          |          |
| N RATE     | 250    | 375      | 500      | 250      | 375      | 500      |          |
| LIQUID N   |        |          |          |          |          |          |          |
| UREA       | 2.48   | 2.51     | 2.66     | 2.06     | 2.31     | 2.24     |          |
| UREA+INH   | 2.55   | 2.47     | 2.50     | 1.75     | 1.92     | 2.22     |          |
| SPACING    | 30 CM  |          | 60 CM    |          |          |          |          |
| YEARS      | 75+6+8 | 75+6+7+8 | 75+6+8   | 75+6+7+8 |          |          |          |
| LIQUID N   |        |          |          |          |          |          |          |
| UREA       | 2.70   | 2.39     | 2.31     | 2.10     |          |          |          |
| UREA+INH   | 2.59   | 2.43     | 1.96     | 1.97     |          |          |          |
| N RATE     | 250    |          | 375      |          | 500      |          |          |
| YEARS      | 75+6+8 | 75+6+7+8 | 75+6+8   | 75+6+7+8 | 75+6+8   | 75+6+7+8 |          |
| LIQUID N   |        |          |          |          |          |          |          |
| UREA       | 2.21   | 2.33     | 2.50     | 2.32     | 2.80     | 2.09     |          |
| UREA+INH   | 2.06   | 2.24     | 2.19     | 2.20     | 2.58     | 2.14     |          |
| N RATE     | 250    |          | 375      |          | 500      |          |          |
| YEARS      | 75+6+8 | 75+6+7+8 | 75+6+8   | 75+6+7+8 | 75+6+8   | 75+6+7+8 |          |
| SPACING    |        |          |          |          |          |          |          |
| 30 CM      | 2.48   | 2.55     | 2.54     | 2.44     | 2.92     | 2.24     |          |
| 60 CM      | 1.79   | 2.02     | 2.15     | 2.08     | 2.46     | 2.00     |          |
| N RATE     |        | 250      |          | 375      |          | 500      |          |
| YEARS      |        | 75+6+8   | 75+6+7+8 | 75+6+8   | 75+6+7+8 | 75+6+8   | 75+6+7+8 |
| LIQUID N   |        |          |          |          |          |          |          |
| SPACING    |        |          |          |          |          |          |          |
| UREA       | 30 CM  | 2.47     | 2.48     | 2.58     | 2.43     | 3.05     | 2.26     |
|            | 60 CM  | 1.95     | 2.17     | 2.42     | 2.21     | 2.55     | 1.92     |
| UREA+INH   | 30 CM  | 2.49     | 2.61     | 2.49     | 2.45     | 2.79     | 2.21     |
|            | 60 CM  | 1.63     | 1.88     | 1.89     | 1.95     | 2.38     | 2.07     |
| SOLID N    | 0      | 100      | 200      | 300      | 400      | 500      | MEAN     |
| YEARS      |        |          |          |          |          |          |          |
| 75+6+8     |        | 1.10     | 1.44     | 1.71     | 2.24     | 2.42     | 1.78     |
| 75+6+7+8   |        | 1.05     | 1.39     | 1.94     | 1.62     | 1.85     | 1.57     |
| MEAN       | 0.58   | 1.07     | 1.41     | 1.83     | 1.93     | 2.14     | 1.49     |
| GRAND MEAN | 2.12   |          |          |          |          |          |          |



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1ST CUT (5/5/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

| TABLE | SOLID N | LIQUID N | SPACING | N RATE |
|-------|---------|----------|---------|--------|
| SED   | 0.148   | 0.060    | 0.060   | 0.074  |

| TABLE | YEARS           | LIQUID N<br>SPACING | LIQUID N<br>N RATE | SPACING<br>N RATE |
|-------|-----------------|---------------------|--------------------|-------------------|
| SED   | 0.054<br>0.084* | 0.085               | 0.105              | 0.105             |

| TABLE  | SOLID N<br>YEARS | LIQUID N<br>YEARS | SPACING<br>YEARS | N RATE<br>YEARS |
|--|------------------|-------------------|------------------|-----------------|
| SED  | 0.198            | 0.081             | 0.081            | 0.099           |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |                  |                   |                  |                 |
| SOLID N  | 0.187            |                   |                  |                 |
| LIQUID N   |                  | 0.076             |                  |                 |
| SPACING  |                  |                   | 0.076            |                 |
| N RATE   |                  |                   |                  | 0.094           |

| TABLE  | LIQUID N<br>SPACING<br>N RATE | LIQUID N<br>SPACING<br>YEARS | LIQUID N<br>N RATE<br>YEARS | SPACING<br>N RATE<br>YEARS |
|--|-------------------------------|------------------------------|-----------------------------|----------------------------|
| SED  | 0.148                         | 0.115                        | 0.140                       | 0.140                      |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |                               |                              |                             |                            |
| LIQUID N.SPACING                                   |                               | 0.108                        |                             |                            |
| LIQUID N.N RATE                                    |                               |                              | 0.132                       |                            |
| SPACING N RATE                                     |                               |                              |                             | 0.132                      |

| TABLE  | LIQUID N<br>SPACING<br>N RATE<br>YEARS |
|--|--|
| SED  | 0.198                                  |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |  |
| LIQUID N.SPACING.N RATE                            | 0.187                                  |

\* USE ONLY IN TABLES INVOLVING SOLID N

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

| STRATUM     | DF | SE    | CV% |
|-------------|----|-------|-----|
| BLOCK.WP    | 16 | 0.148 | 7.0 |
| BLOCK.WP.SP | 17 | 0.187 | 8.8 |

1ST CUT MEAN DM% 14.2

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2ND CUT (1/6/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |        |          |      |      |
|----------|--------|----------|------|------|
| SPACING  | 30 CM  | 60 CM    | MEAN |      |
| LIQUID N |        |          |      |      |
| UREA     | 3.64   | 3.39     | 3.51 |      |
| UREA+INH | 3.63   | 3.41     | 3.52 |      |
| MEAN     | 3.63   | 3.40     | 3.52 |      |
| N RATE   | 250    | 375      | 500  | MEAN |
| LIQUID N |        |          |      |      |
| UREA     | 3.43   | 3.55     | 3.56 | 3.51 |
| UREA+INH | 3.53   | 3.56     | 3.49 | 3.52 |
| MEAN     | 3.48   | 3.55     | 3.53 | 3.52 |
| N RATE   | 250    | 375      | 500  | MEAN |
| SPACING  |        |          |      |      |
| 30 CM    | 3.55   | 3.74     | 3.62 | 3.63 |
| 60 CM    | 3.41   | 3.37     | 3.44 | 3.40 |
| MEAN     | 3.48   | 3.55     | 3.53 | 3.52 |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN |      |
| LIQUID N |        |          |      |      |
| UREA     | 3.54   | 3.49     | 3.51 |      |
| UREA+INH | 3.56   | 3.49     | 3.52 |      |
| MEAN     | 3.55   | 3.49     | 3.52 |      |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN |      |
| SPACING  |        |          |      |      |
| 30 CM    | 3.65   | 3.61     | 3.63 |      |
| 60 CM    | 3.44   | 3.37     | 3.40 |      |
| MEAN     | 3.55   | 3.49     | 3.52 |      |

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2ND CUT (1/6/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |        |          |        |          |        |          |      |
|----------|--------|----------|--------|----------|--------|----------|------|
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN   |          |        |          |      |
| N RATE   |        |          |        |          |        |          |      |
| 250      | 3.58   | 3.38     | 3.48   |          |        |          |      |
| 375      | 3.58   | 3.53     | 3.55   |          |        |          |      |
| 500      | 3.48   | 3.57     | 3.53   |          |        |          |      |
| MEAN     | 3.55   | 3.49     | 3.52   |          |        |          |      |
| SPACING  | 30 CM  |          |        | 60 CM    |        |          |      |
| N RATE   | 250    | 375      | 500    | 250      | 375    | 500      |      |
| LIQUID N |        |          |        |          |        |          |      |
| UREA     | 3.51   | 3.77     | 3.62   | 3.35     | 3.33   | 3.50     |      |
| UREA+INH | 3.58   | 3.71     | 3.61   | 3.47     | 3.41   | 3.37     |      |
| SPACING  | 30 CM  |          |        | 60 CM    |        |          |      |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |        |          |      |
| LIQUID N |        |          |        |          |        |          |      |
| UREA     | 3.66   | 3.62     | 3.42   | 3.37     |        |          |      |
| UREA+INH | 3.65   | 3.61     | 3.46   | 3.37     |        |          |      |
| N RATE   | 250    |          | 375    |          | 500    |          |      |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |      |
| LIQUID N |        |          |        |          |        |          |      |
| UREA     | 3.56   | 3.30     | 3.49   | 3.61     | 3.55   | 3.57     |      |
| UREA+INH | 3.59   | 3.46     | 3.67   | 3.44     | 3.42   | 3.56     |      |
| N RATE   | 250    |          | 375    |          | 500    |          |      |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |      |
| SPACING  |        |          |        |          |        |          |      |
| 30 CM    | 3.72   | 3.38     | 3.73   | 3.76     | 3.52   | 3.71     |      |
| 60 CM    | 3.44   | 3.38     | 3.44   | 3.30     | 3.44   | 3.43     |      |
| N RATE   | 250    |          | 375    |          | 500    |          |      |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |      |
| LIQUID N |        |          |        |          |        |          |      |
| SPACING  |        |          |        |          |        |          |      |
| UREA     | 30 CM  | 3.77     | 3.25   | 3.65     | 3.89   | 3.54     | 3.71 |
|          | 60 CM  | 3.36     | 3.34   | 3.33     | 3.33   | 3.56     | 3.44 |
| UREA+INH | 30 CM  | 3.66     | 3.50   | 3.80     | 3.63   | 3.51     | 3.71 |
|          | 60 CM  | 3.52     | 3.42   | 3.55     | 3.26   | 3.32     | 3.42 |
| SOLID N  | 0      | 100      | 200    | 300      | 400    | 500      | MEAN |
| YEARS    |        |          |        |          |        |          |      |
| 75+6+8   |        | 2.45     | 2.99   | 3.14     | 3.04   | 3.14     | 2.95 |
| 75+6+7+8 |        | 2.42     | 2.89   | 3.14     | 3.76   | 3.69     | 3.18 |
| MEAN     | 1.99   | 2.43     | 2.94   | 3.14     | 3.40   | 3.42     | 2.89 |

GRAND MEAN 3.39

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2ND CUT (1/6/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

| TABLE  | SOLID N                                | LIQUID N                     | SPACING                     | N RATE                     |
|--|--|------------------------------|-----------------------------|----------------------------|
| SED  | 0.098                                  | 0.040                        | 0.040                       | 0.049                      |
| TABLE  | YEARS                                  | LIQUID N<br>SPACING          | LIQUID N<br>N RATE          | SPACING<br>N RATE          |
| SED  | 0.072<br>0.112*                        | 0.056                        | 0.069                       | 0.069                      |
| TABLE  | SOLID N<br>YEARS                       | LIQUID N<br>YEARS            | SPACING<br>YEARS            | N RATE<br>YEARS            |
| SED  | 0.202                                  | 0.082                        | 0.082                       | 0.101                      |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |  |                              |                             |                            |
| SOLID N  | 0.250                                  |                              |                             |                            |
| LIQUID N   |  | 0.102                        |                             |                            |
| SPACING  |  |                              | 0.102                       |                            |
| N RATE   |  |                              |                             | 0.125                      |
| TABLE  | LIQUID N<br>SPACING<br>N RATE          | LIQUID N<br>SPACING<br>YEARS | LIQUID N<br>N RATE<br>YEARS | SPACING<br>N RATE<br>YEARS |
| SED  | 0.098                                  | 0.117                        | 0.143                       | 0.143                      |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |  |                              |                             |                            |
| LIQUID N.SPACING                                   |  | 0.144                        |                             |                            |
| LIQUID N.N RATE                                    |  |                              | 0.177                       |                            |
| SPACING N RATE                                     |  |                              |                             | 0.177                      |
| TABLE  | LIQUID N<br>SPACING<br>N RATE<br>YEARS |                              |                             |                            |
| SED  | 0.202                                  |                              |                             |                            |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |  |                              |                             |                            |
| LIQUID N.SPACING.N RATE                            | 0.250                                  |                              |                             |                            |

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

| STRATUM     | DF | SE    | CV% |
|-------------|----|-------|-----|
| BLOCK.WP    | 16 | 0.098 | 2.9 |
| BLOCK.WP.SP | 17 | 0.250 | 7.4 |

2ND CUT MEAN DM% 15.4



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3RD CUT (11/7/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |        |          |      |      |
|----------|--------|----------|------|------|
| SPACING  | 30 CM  | 60 CM    | MEAN |      |
| LIQUID N |        |          |      |      |
| UREA     | 1.96   | 1.97     | 1.97 |      |
| UREA+INH | 2.02   | 1.96     | 1.99 |      |
| MEAN     | 1.99   | 1.97     | 1.98 |      |
| N RATE   | 250    | 375      | 500  | MEAN |
| LIQUID N |        |          |      |      |
| UREA     | 1.53   | 2.22     | 2.15 | 1.97 |
| UREA+INH | 1.68   | 2.13     | 2.16 | 1.99 |
| MEAN     | 1.60   | 2.18     | 2.15 | 1.98 |
| N RATE   | 250    | 375      | 500  | MEAN |
| SPACING  |        |          |      |      |
| 30 CM    | 1.40   | 2.25     | 2.31 | 1.99 |
| 60 CM    | 1.81   | 2.10     | 1.99 | 1.97 |
| MEAN     | 1.60   | 2.18     | 2.15 | 1.98 |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN |      |
| LIQUID N |        |          |      |      |
| UREA     | 2.08   | 1.86     | 1.97 |      |
| UREA+INH | 2.15   | 1.83     | 1.99 |      |
| MEAN     | 2.11   | 1.84     | 1.98 |      |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN |      |
| SPACING  |        |          |      |      |
| 30 CM    | 2.13   | 1.84     | 1.99 |      |
| 60 CM    | 2.09   | 1.84     | 1.97 |      |
| MEAN     | 2.11   | 1.84     | 1.98 |      |

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3RD CUT (11/7/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |        |          |        |          |        |          |      |
|----------|--------|----------|--------|----------|--------|----------|------|
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN   |          |        |          |      |
| N RATE   |        |          |        |          |        |          |      |
| 250      | 1.61   | 1.60     | 1.60   |          |        |          |      |
| 375      | 2.29   | 2.06     | 2.18   |          |        |          |      |
| 500      | 2.44   | 1.87     | 2.15   |          |        |          |      |
| MEAN     | 2.11   | 1.84     | 1.98   |          |        |          |      |
| SPACING  | 30 CM  |          |        | 60 CM    |        |          |      |
| N RATE   | 250    | 375      | 500    | 250      | 375    | 500      |      |
| LIQUID N |        |          |        |          |        |          |      |
| UREA     | 1.28   | 2.35     | 2.25   | 1.78     | 2.09   | 2.04     |      |
| UREA+INH | 1.52   | 2.15     | 2.37   | 1.84     | 2.10   | 1.94     |      |
| SPACING  | 30 CM  |          |        | 60 CM    |        |          |      |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |        |          |      |
| LIQUID N |        |          |        |          |        |          |      |
| UREA     | 2.08   | 1.84     | 2.07   | 1.87     |        |          |      |
| UREA+INH | 2.18   | 1.85     | 2.11   | 1.81     |        |          |      |
| N RATE   | 250    |          | 375    |          | 500    |          |      |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |      |
| LIQUID N |        |          |        |          |        |          |      |
| UREA     | 1.52   | 1.54     | 2.31   | 2.13     | 2.40   | 1.89     |      |
| UREA+INH | 1.70   | 1.65     | 2.26   | 2.00     | 2.47   | 1.84     |      |
| N RATE   | 250    |          | 375    |          | 500    |          |      |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |      |
| SPACING  |        |          |        |          |        |          |      |
| 30 CM    | 1.39   | 1.41     | 2.37   | 2.13     | 2.64   | 1.99     |      |
| 60 CM    | 1.83   | 1.79     | 2.20   | 2.00     | 2.24   | 1.75     |      |
| N RATE   | 250    |          | 375    |          | 500    |          |      |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |      |
| LIQUID N |        |          |        |          |        |          |      |
| SPACING  |        |          |        |          |        |          |      |
| UREA     | 30 CM  | 1.29     | 1.27   | 2.42     | 2.29   | 2.54     | 1.97 |
|          | 60 CM  | 1.75     | 1.82   | 2.21     | 1.97   | 2.26     | 1.82 |
| UREA+INH | 30 CM  | 1.49     | 1.55   | 2.33     | 1.97   | 2.73     | 2.01 |
|          | 60 CM  | 1.92     | 1.75   | 2.19     | 2.02   | 2.21     | 1.67 |
| SOLID N  | 0      | 100      | 200    | 300      | 400    | 500      | MEAN |
| YEARS    |        |          |        |          |        |          |      |
| 75+6+8   |        | 1.02     | 1.37   | 1.63     | 2.12   | 2.38     | 1.71 |
| 75+6+7+8 |        | 0.89     | 1.22   | 1.61     | 1.82   | 2.24     | 1.56 |
| MEAN     | 1.03   | 0.96     | 1.30   | 1.62     | 1.97   | 2.31     | 1.53 |

GRAND MEAN 1.88

78/R/CS/161

3RD CUT (11/7/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

| TABLE | SOLID N | LIQUID N | SPACING | N RATE |
|-------|---------|----------|---------|--------|
| SED   | 0.176   | 0.072    | 0.072   | 0.088  |

| TABLE | YEARS           | LIQUID N<br>SPACING | LIQUID N<br>N RATE | SPACING<br>N RATE |
|-------|-----------------|---------------------|--------------------|-------------------|
| SED   | 0.067<br>0.104* | 0.101               | 0.124              | 0.124             |

| TABLE  | SOLID N<br>YEARS | LIQUID N<br>YEARS | SPACING<br>YEARS | N RATE<br>YEARS |
|--|------------------|-------------------|------------------|-----------------|
| SED  | 0.241            | 0.098             | 0.098            | 0.120           |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |                  |                   |                  |                 |
| SOLID N  | 0.233            |                   |                  |                 |
| LIQUID N   |                  | 0.095             |                  |                 |
| SPACING  |                  |                   | 0.095            |                 |
| N RATE   |                  |                   |                  | 0.116           |

| TABLE  | LIQUID N<br>SPACING<br>N RATE | LIQUID N<br>SPACING<br>YEARS | LIQUID N<br>N RATE<br>YEARS | SPACING<br>N RATE<br>YEARS |
|--|-------------------------------|------------------------------|-----------------------------|----------------------------|
| SED  | 0.176                         | 0.139                        | 0.170                       | 0.170                      |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |                               |                              |                             |                            |
| LIQUID N.SPACING                                   |                               | 0.134                        |                             |                            |
| LIQUID N.N RATE                                    |                               |                              | 0.164                       |                            |
| SPACING N RATE                                     |                               |                              |                             | 0.164                      |

| TABLE  | LIQUID N<br>SPACING<br>N RATE<br>YEARS |
|--|--|
| SED  | 0.241                                  |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |  |
| LIQUID N.SPACING.N RATE                            | 0.233                                  |

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

| STRATUM     | DF | SE    | CV%  |
|-------------|----|-------|------|
| BLOCK.WP    | 16 | 0.176 | 9.4  |
| BLOCK.WP.SP | 17 | 0.233 | 12.4 |

3RD CUT MEAN DM% 20.4

78/R/CS/161

4TH CUT (8/8/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |        |          |      |      |
|----------|--------|----------|------|------|
| SPACING  | 30 CM  | 60 CM    | MEAN |      |
| LIQUID N |        |          |      |      |
| UREA     | 1.18   | 1.23     | 1.21 |      |
| UREA+INH | 1.11   | 1.26     | 1.19 |      |
| MEAN     | 1.15   | 1.25     | 1.20 |      |
| N RATE   | 250    | 375      | 500  | MEAN |
| LIQUID N |        |          |      |      |
| UREA     | 0.78   | 1.29     | 1.55 | 1.21 |
| UREA+INH | 0.82   | 1.27     | 1.47 | 1.19 |
| MEAN     | 0.80   | 1.28     | 1.51 | 1.20 |
| N RATE   | 250    | 375      | 500  | MEAN |
| SPACING  |        |          |      |      |
| 30 CM    | 0.71   | 1.16     | 1.57 | 1.15 |
| 60 CM    | 0.89   | 1.40     | 1.45 | 1.25 |
| MEAN     | 0.80   | 1.28     | 1.51 | 1.20 |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN |      |
| LIQUID N |        |          |      |      |
| UREA     | 1.19   | 1.23     | 1.21 |      |
| UREA+INH | 1.17   | 1.20     | 1.19 |      |
| MEAN     | 1.18   | 1.21     | 1.20 |      |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN |      |
| SPACING  |        |          |      |      |
| 30 CM    | 1.15   | 1.14     | 1.15 |      |
| 60 CM    | 1.21   | 1.29     | 1.25 |      |
| MEAN     | 1.18   | 1.21     | 1.20 |      |



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4TH CUT (8/8/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |        |          |        |          |        |          |      |
|----------|--------|----------|--------|----------|--------|----------|------|
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN   |          |        |          |      |
| N RATE   |        |          |        |          |        |          |      |
| 250      | 0.81   | 0.79     | 0.80   |          |        |          |      |
| 375      | 1.25   | 1.31     | 1.28   |          |        |          |      |
| 500      | 1.48   | 1.54     | 1.51   |          |        |          |      |
| MEAN     | 1.18   | 1.21     | 1.20   |          |        |          |      |
| SPACING  | 30 CM  |          |        | 60 CM    |        |          |      |
| N RATE   | 250    | 375      | 500    | 250      | 375    | 500      |      |
| LIQUID N |        |          |        |          |        |          |      |
| UREA     | 0.70   | 1.22     | 1.63   | 0.86     | 1.36   | 1.48     |      |
| UREA+INH | 0.71   | 1.10     | 1.51   | 0.92     | 1.44   | 1.42     |      |
| SPACING  | 30 CM  |          |        | 60 CM    |        |          |      |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |        |          |      |
| LIQUID N |        |          |        |          |        |          |      |
| UREA     | 1.21   | 1.16     | 1.17   | 1.29     |        |          |      |
| UREA+INH | 1.09   | 1.12     | 1.25   | 1.28     |        |          |      |
| N RATE   | 250    |          | 375    |          | 500    |          |      |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |      |
| LIQUID N |        |          |        |          |        |          |      |
| UREA     | 0.76   | 0.80     | 1.26   | 1.33     | 1.55   | 1.55     |      |
| UREA+INH | 0.85   | 0.78     | 1.25   | 1.30     | 1.41   | 1.52     |      |
| N RATE   | 250    |          | 375    |          | 500    |          |      |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |      |
| SPACING  |        |          |        |          |        |          |      |
| 30 CM    | 0.78   | 0.63     | 1.15   | 1.17     | 1.52   | 1.62     |      |
| 60 CM    | 0.84   | 0.95     | 1.35   | 1.45     | 1.45   | 1.46     |      |
| N RATE   | 250    |          | 375    |          | 500    |          |      |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |      |
| LIQUID N |        |          |        |          |        |          |      |
| UREA     | 0.73   | 0.68     | 1.26   | 1.19     | 1.64   | 1.62     |      |
| SPACING  | 30 CM  | 0.80     | 0.92   | 1.26     | 1.47   | 1.46     | 1.49 |
| UREA+INH | 30 CM  | 0.83     | 0.59   | 1.05     | 1.16   | 1.40     | 1.62 |
|          | 60 CM  | 0.87     | 0.98   | 1.44     | 1.44   | 1.43     | 1.42 |
| SOLID N  | 0      | 100      | 200    | 300      | 400    | 500      | MEAN |
| YEARS    |        |          |        |          |        |          |      |
| 75+6+8   |        | 0.94     | 1.34   | 1.28     | 1.43   | 1.42     | 1.28 |
| 75+6+7+8 |        | 0.67     | 0.97   | 1.19     | 1.23   | 1.29     | 1.07 |
| MEAN     | 0.76   | 0.81     | 1.16   | 1.23     | 1.33   | 1.36     | 1.11 |

GRAND MEAN 1.19

78/R/CS/161

4TH CUT (8/8/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

| TABLE  | SOLID N                                | LIQUID N                     | SPACING                     | N RATE                     |
|--|--|------------------------------|-----------------------------|----------------------------|
| SED  | 0.069                                  | 0.028                        | 0.028                       | 0.034                      |
| TABLE  | YEARS                                  | LIQUID N<br>SPACING          | LIQUID N<br>N RATE          | SPACING<br>N RATE          |
| SED  | 0.035<br>0.055*                        | 0.040                        | 0.049                       | 0.049                      |
| TABLE  | SOLID N<br>YEARS                       | LIQUID N<br>YEARS            | SPACING<br>YEARS            | N RATE<br>YEARS            |
| SED  | 0.110                                  | 0.045                        | 0.045                       | 0.055                      |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |  |                              |                             |                            |
| SOLID N  | 0.122                                  |                              |                             |                            |
| LIQUID N   |  | 0.050                        |                             |                            |
| SPACING  |  |                              | 0.050                       |                            |
| N RATE   |  |                              |                             | 0.061                      |
| TABLE  | LIQUID N<br>SPACING<br>N RATE          | LIQUID N<br>SPACING<br>YEARS | LIQUID N<br>N RATE<br>YEARS | SPACING<br>N RATE<br>YEARS |
| SED  | 0.069                                  | 0.064                        | 0.078                       | 0.078                      |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |  |                              |                             |                            |
| LIQUID N.SPACING                                   |  | 0.070                        |                             |                            |
| LIQUID N.N RATE                                    |  |                              | 0.086                       |                            |
| SPACING N RATE                                     |  |                              |                             | 0.086                      |
| TABLE  | LIQUID N<br>SPACING<br>N RATE<br>YEARS |                              |                             |                            |
| SED  | 0.110                                  |                              |                             |                            |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |  |                              |                             |                            |
| LIQUID N.SPACING.N RATE                            | 0.122                                  |                              |                             |                            |

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

| STRATUM     | DF | SE    | CV%  |
|-------------|----|-------|------|
| BLOCK.WP    | 16 | 0.069 | 5.8  |
| BLOCK.WP.SP | 17 | 0.122 | 10.2 |

4TH CUT MEAN DM% 17.3

78/R/CS/161

5TH CUT (8/9/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |        |          |      |      |
|----------|--------|----------|------|------|
| SPACING  | 30 CM  | 60 CM    | MEAN |      |
| LIQUID N |        |          |      |      |
| UREA     | 0.69   | 0.79     | 0.74 |      |
| UREA+INH | 0.62   | 0.77     | 0.70 |      |
| MEAN     | 0.65   | 0.78     | 0.72 |      |
| N RATE   | 250    | 375      | 500  | MEAN |
| LIQUID N |        |          |      |      |
| UREA     | 0.46   | 0.73     | 1.03 | 0.74 |
| UREA+INH | 0.43   | 0.66     | 0.99 | 0.70 |
| MEAN     | 0.45   | 0.70     | 1.01 | 0.72 |
| N RATE   | 250    | 375      | 500  | MEAN |
| SPACING  |        |          |      |      |
| 30 CM    | 0.42   | 0.53     | 1.01 | 0.65 |
| 60 CM    | 0.47   | 0.86     | 1.01 | 0.78 |
| MEAN     | 0.45   | 0.70     | 1.01 | 0.72 |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN |      |
| LIQUID N |        |          |      |      |
| UREA     | 0.79   | 0.69     | 0.74 |      |
| UREA+INH | 0.74   | 0.65     | 0.70 |      |
| MEAN     | 0.77   | 0.67     | 0.72 |      |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN |      |
| SPACING  |        |          |      |      |
| 30 CM    | 0.71   | 0.60     | 0.65 |      |
| 60 CM    | 0.83   | 0.73     | 0.78 |      |
| MEAN     | 0.77   | 0.67     | 0.72 |      |

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5TH CUT (8/9/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|            |        |          |          |          |          |          |          |
|------------|--------|----------|----------|----------|----------|----------|----------|
| YEARS      | 75+6+8 | 75+6+7+8 | MEAN     |          |          |          |          |
| N RATE     |        |          |          |          |          |          |          |
| 250        | 0.49   | 0.40     | 0.45     |          |          |          |          |
| 375        | 0.73   | 0.66     | 0.70     |          |          |          |          |
| 500        | 1.08   | 0.94     | 1.01     |          |          |          |          |
| MEAN       | 0.77   | 0.67     | 0.72     |          |          |          |          |
| SPACING    | 30 CM  |          |          | 60 CM    |          |          |          |
| N RATE     | 250    | 375      | 500      | 250      | 375      | 500      |          |
| LIQUID N   |        |          |          |          |          |          |          |
| UREA       | 0.43   | 0.58     | 1.05     | 0.48     | 0.88     | 1.02     |          |
| UREA+INH   | 0.41   | 0.48     | 0.97     | 0.46     | 0.84     | 1.01     |          |
| SPACING    | 30 CM  |          |          | 60 CM    |          |          |          |
| YEARS      | 75+6+8 | 75+6+7+8 | 75+6+8   | 75+6+7+8 |          |          |          |
| LIQUID N   |        |          |          |          |          |          |          |
| UREA       | 0.73   | 0.65     | 0.86     | 0.72     |          |          |          |
| UREA+INH   | 0.69   | 0.55     | 0.80     | 0.74     |          |          |          |
| N RATE     | 250    |          | 375      |          | 500      |          |          |
| YEARS      | 75+6+8 | 75+6+7+8 | 75+6+8   | 75+6+7+8 | 75+6+8   | 75+6+7+8 |          |
| LIQUID N   |        |          |          |          |          |          |          |
| UREA       | 0.51   | 0.40     | 0.78     | 0.68     | 1.09     | 0.98     |          |
| UREA+INH   | 0.48   | 0.39     | 0.67     | 0.65     | 1.08     | 0.91     |          |
| N RATE     | 250    |          | 375      |          | 500      |          |          |
| YEARS      | 75+6+8 | 75+6+7+8 | 75+6+8   | 75+6+7+8 | 75+6+8   | 75+6+7+8 |          |
| SPACING    |        |          |          |          |          |          |          |
| 30 CM      | 0.48   | 0.37     | 0.56     | 0.50     | 1.08     | 0.94     |          |
| 60 CM      | 0.51   | 0.43     | 0.89     | 0.83     | 1.08     | 0.95     |          |
| N RATE     |        | 250      |          | 375      |          | 500      |          |
| YEARS      |        | 75+6+8   | 75+6+7+8 | 75+6+8   | 75+6+7+8 | 75+6+8   | 75+6+7+8 |
| LIQUID N   |        |          |          |          |          |          |          |
| SPACING    |        |          |          |          |          |          |          |
| UREA       | 30 CM  | 0.49     | 0.37     | 0.65     | 0.51     | 1.04     | 1.06     |
|            | 60 CM  | 0.54     | 0.43     | 0.92     | 0.84     | 1.13     | 0.90     |
| UREA+INH   | 30 CM  | 0.47     | 0.36     | 0.47     | 0.49     | 1.12     | 0.82     |
|            | 60 CM  | 0.49     | 0.42     | 0.87     | 0.81     | 1.03     | 1.00     |
| SOLID N    | 0      | 100      | 200      | 300      | 400      | 500      | MEAN     |
| YEARS      |        |          |          |          |          |          |          |
| 75+6+8     |        | 0.74     | 0.99     | 1.07     | 1.21     | 1.29     | 1.00     |
| 75+6+7+8   |        | 0.56     | 0.94     | 1.23     | 1.13     | 1.05     | 0.98     |
| MEAN       | 0.63   | 0.65     | 0.96     | 1.15     | 1.17     | 1.17     | 0.95     |
| GRAND MEAN | 0.81   |          |          |          |          |          |          |



78/R/CS/161

5TH CUT (8/9/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

| TABLE | SOLID N | LIQUID N | SPACING | N RATE |
|-------|---------|----------|---------|--------|
| SED   | 0.086   | 0.035    | 0.035   | 0.043  |

| TABLE | YEARS           | LIQUID N<br>SPACING | LIQUID N<br>N RATE | SPACING<br>N RATE |
|-------|-----------------|---------------------|--------------------|-------------------|
| SED   | 0.033<br>0.052* | 0.050               | 0.061              | 0.061             |

| TABLE  | SOLID N<br>YEARS | LIQUID N<br>YEARS | SPACING<br>YEARS | N RATE<br>YEARS |
|--|------------------|-------------------|------------------|-----------------|
| SED  | 0.119            | 0.048             | 0.048            | 0.059           |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |                  |                   |                  |                 |
| SOLID N  | 0.116            |                   |                  |                 |
| LIQUID N   |                  | 0.047             |                  |                 |
| SPACING  |                  |                   | 0.047            |                 |
| N RATE   |                  |                   |                  | 0.058           |

| TABLE  | LIQUID N<br>SPACING<br>N RATE | LIQUID N<br>SPACING<br>YEARS | LIQUID N<br>N RATE<br>YEARS | SPACING<br>N RATE<br>YEARS |
|--|-------------------------------|------------------------------|-----------------------------|----------------------------|
| SED  | 0.086                         | 0.068                        | 0.084                       | 0.084                      |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |                               |                              |                             |                            |
| LIQUID N.SPACING                                   |                               | 0.067                        |                             |                            |
| LIQUID N.N RATE                                    |                               |                              | 0.082                       |                            |
| SPACING N RATE                                     |                               |                              |                             | 0.082                      |

| TABLE  | LIQUID N<br>SPACING<br>N RATE<br>YEARS |
|--|--|
| SED  | 0.119                                  |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |  |
| LIQUID N.SPACING.N RATE                            | 0.116                                  |

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

| STRATUM     | DF | SE    | CV%  |
|-------------|----|-------|------|
| BLOCK.WP    | 16 | 0.086 | 10.6 |
| BLOCK.WP.SP | 17 | 0.116 | 14.3 |

5TH CUT MEAN DM% 18.1

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6TH CUT (31/10/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |        |          |      |      |
|----------|--------|----------|------|------|
| SPACING  | 30 CM  | 60 CM    | MEAN |      |
| LIQUID N |        |          |      |      |
| UREA     | 0.18   | 0.32     | 0.25 |      |
| UREA+INH | 0.15   | 0.30     | 0.22 |      |
| MEAN     | 0.17   | 0.31     | 0.24 |      |
| N RATE   | 250    | 375      | 500  | MEAN |
| LIQUID N |        |          |      |      |
| UREA     | 0.08   | 0.22     | 0.45 | 0.25 |
| UREA+INH | 0.08   | 0.20     | 0.39 | 0.22 |
| MEAN     | 0.08   | 0.21     | 0.42 | 0.24 |
| N RATE   | 250    | 375      | 500  | MEAN |
| SPACING  |        |          |      |      |
| 30 CM    | 0.07   | 0.10     | 0.32 | 0.17 |
| 60 CM    | 0.09   | 0.32     | 0.52 | 0.31 |
| MEAN     | 0.08   | 0.21     | 0.42 | 0.24 |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN |      |
| LIQUID N |        |          |      |      |
| UREA     | 0.23   | 0.28     | 0.25 |      |
| UREA+INH | 0.23   | 0.21     | 0.22 |      |
| MEAN     | 0.23   | 0.24     | 0.24 |      |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN |      |
| SPACING  |        |          |      |      |
| 30 CM    | 0.14   | 0.19     | 0.17 |      |
| 60 CM    | 0.33   | 0.29     | 0.31 |      |
| MEAN     | 0.23   | 0.24     | 0.24 |      |

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6TH CUT (31/10/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |        |          |          |          |          |          |          |
|----------|--------|----------|----------|----------|----------|----------|----------|
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN     |          |          |          |          |
| N RATE   |        |          |          |          |          |          |          |
| 250      | 0.09   | 0.08     | 0.08     |          |          |          |          |
| 375      | 0.20   | 0.22     | 0.21     |          |          |          |          |
| 500      | 0.41   | 0.43     | 0.42     |          |          |          |          |
| MEAN     | 0.23   | 0.24     | 0.24     |          |          |          |          |
| SPACING  | 30 CM  |          |          | 60 CM    |          |          |          |
| N RATE   | 250    | 375      | 500      | 250      | 375      | 500      |          |
| LIQUID N |        |          |          |          |          |          |          |
| UREA     | 0.08   | 0.12     | 0.35     | 0.08     | 0.33     | 0.55     |          |
| UREA+INH | 0.07   | 0.09     | 0.29     | 0.10     | 0.31     | 0.48     |          |
| SPACING  | 30 CM  |          |          | 60 CM    |          |          |          |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8   | 75+6+7+8 |          |          |          |
| LIQUID N |        |          |          |          |          |          |          |
| UREA     | 0.14   | 0.23     | 0.32     | 0.32     |          |          |          |
| UREA+INH | 0.14   | 0.16     | 0.33     | 0.26     |          |          |          |
| N RATE   | 250    |          | 375      |          | 500      |          |          |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8   | 75+6+7+8 | 75+6+8   | 75+6+7+8 |          |
| LIQUID N |        |          |          |          |          |          |          |
| UREA     | 0.07   | 0.09     | 0.21     | 0.24     | 0.40     | 0.50     |          |
| UREA+INH | 0.10   | 0.07     | 0.19     | 0.20     | 0.41     | 0.36     |          |
| N RATE   | 250    |          | 375      |          | 500      |          |          |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8   | 75+6+7+8 | 75+6+8   | 75+6+7+8 |          |
| SPACING  |        |          |          |          |          |          |          |
| 30 CM    | 0.08   | 0.07     | 0.08     | 0.12     | 0.25     | 0.40     |          |
| 60 CM    | 0.09   | 0.09     | 0.32     | 0.32     | 0.57     | 0.47     |          |
| N RATE   |        | 250      |          | 375      |          | 500      |          |
| YEARS    |        | 75+6+8   | 75+6+7+8 | 75+6+8   | 75+6+7+8 | 75+6+8   | 75+6+7+8 |
| LIQUID N |        |          |          |          |          |          |          |
| UREA     | 30 CM  | 0.07     | 0.09     | 0.12     | 0.11     | 0.22     | 0.49     |
|          | 60 CM  | 0.07     | 0.09     | 0.30     | 0.36     | 0.58     | 0.52     |
| UREA+INH | 30 CM  | 0.09     | 0.04     | 0.05     | 0.13     | 0.27     | 0.31     |
|          | 60 CM  | 0.11     | 0.09     | 0.33     | 0.28     | 0.56     | 0.41     |
| SOLID N  | 0      | 100      | 200      | 300      | 400      | 500      | MEAN     |
| YEARS    |        |          |          |          |          |          |          |
| 75+6+8   |        | 0.30     | 0.28     | 0.43     | 0.68     | 0.69     | 0.48     |
| 75+6+7+8 |        | 0.13     | 0.39     | 0.73     | 0.54     | 0.65     | 0.49     |
| MEAN     | 0.15   | 0.21     | 0.33     | 0.58     | 0.61     | 0.67     | 0.43     |

GRAND MEAN 0.31

78/R/CS/161

6TH CUT (31/10/78) DRY MATTER TONNES/HECTARE

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

| TABLE | SOLID N | LIQUID N | SPACING | N RATE |
|-------|---------|----------|---------|--------|
| SED   | 0.077   | 0.032    | 0.032   | 0.039  |

| TABLE | YEARS           | LIQUID N<br>SPACING | LIQUID N<br>N RATE | SPACING<br>N RATE |
|-------|-----------------|---------------------|--------------------|-------------------|
| SED   | 0.022<br>0.034* | 0.045               | 0.055              | 0.055             |

| TABLE  | SOLID N<br>YEARS | LIQUID N<br>YEARS | SPACING<br>YEARS | N RATE<br>YEARS |
|--|------------------|-------------------|------------------|-----------------|
| SED  | 0.094            | 0.038             | 0.038            | 0.047           |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |                  |                   |                  |                 |
| SOLID N  | 0.076            |                   |                  |                 |
| LIQUID N   |                  | 0.031             |                  |                 |
| SPACING  |                  |                   | 0.031            |                 |
| N RATE   |                  |                   |                  | 0.038           |

| TABLE  | LIQUID N<br>SPACING<br>N RATE | LIQUID N<br>SPACING<br>YEARS | LIQUID N<br>N RATE<br>YEARS | SPACING<br>N RATE<br>YEARS |
|--|-------------------------------|------------------------------|-----------------------------|----------------------------|
| SED  | 0.077                         | 0.054                        | 0.066                       | 0.066                      |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |                               |                              |                             |                            |
| LIQUID N.SPACING                                   |                               | 0.044                        |                             |                            |
| LIQUID N.N RATE                                    |                               |                              | 0.054                       |                            |
| SPACING N RATE                                     |                               |                              |                             | 0.054                      |

| TABLE  | LIQUID N<br>SPACING<br>N RATE<br>YEARS |
|--|--|
| SED  | 0.094                                  |
| EXCEPT WHOCOMPARING MEANS WITH SAME LEVEL(S) OF: |  |
| LIQUID N.SPACING.N RATE                          | 0.076                                  |

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

| STRATUM     | DF | SE    | CV%  |
|-------------|----|-------|------|
| BLOCK.WP    | 16 | 0.077 | 24.9 |
| BLOCK.WP.SP | 17 | 0.076 | 24.5 |

6TH CUT MEAN DM% 29.4



78/R/CS/161

TOTAL OF 6 CUTS DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |        |          |       |       |
|----------|--------|----------|-------|-------|
| SPACING  | 30 CM  | 60 CM    | MEAN  |       |
| LIQUID N |        |          |       |       |
| UREA     | 10.20  | 9.92     | 10.06 |       |
| UREA+INH | 10.03  | 9.67     | 9.85  |       |
| MEAN     | 10.12  | 9.79     | 9.96  |       |
| N RATE   | 250    | 375      | 500   | MEAN  |
| LIQUID N |        |          |       |       |
| UREA     | 8.55   | 10.43    | 11.19 | 10.06 |
| UREA+INH | 8.69   | 10.01    | 10.86 | 9.85  |
| MEAN     | 8.62   | 10.22    | 11.02 | 9.96  |
| N RATE   | 250    | 375      | 500   | MEAN  |
| SPACING  |        |          |       |       |
| 30 CM    | 8.66   | 10.28    | 11.41 | 10.12 |
| 60 CM    | 8.58   | 10.17    | 10.64 | 9.79  |
| MEAN     | 8.62   | 10.22    | 11.02 | 9.96  |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN  |       |
| LIQUID N |        |          |       |       |
| UREA     | 10.33  | 9.79     | 10.06 |       |
| UREA+INH | 10.13  | 9.58     | 9.85  |       |
| MEAN     | 10.23  | 9.68     | 9.96  |       |
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN  |       |
| SPACING  |        |          |       |       |
| 30 CM    | 10.43  | 9.80     | 10.12 |       |
| 60 CM    | 10.03  | 9.56     | 9.79  |       |
| MEAN     | 10.23  | 9.68     | 9.96  |       |

78/R/CS/161

TOTAL OF 6 CUTS DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |        |          |        |          |        |          |       |
|----------|--------|----------|--------|----------|--------|----------|-------|
| YEARS    | 75+6+8 | 75+6+7+8 | MEAN   |          |        |          |       |
| N RATE   |        |          |        |          |        |          |       |
| 250      | 8.71   | 8.53     | 8.62   |          |        |          |       |
| 375      | 10.40  | 10.05    | 10.22  |          |        |          |       |
| 500      | 11.58  | 10.47    | 11.02  |          |        |          |       |
| MEAN     | 10.23  | 9.68     | 9.96   |          |        |          |       |
| SPACING  | 30 CM  |          |        | 60 CM    |        |          |       |
| N RATE   | 250    | 375      | 500    | 250      | 375    | 500      |       |
| LIQUID N |        |          |        |          |        |          |       |
| UREA     | 8.48   | 10.55    | 11.57  | 8.62     | 10.31  | 10.82    |       |
| UREA+INH | 8.84   | 10.01    | 11.25  | 8.54     | 10.02  | 10.46    |       |
| SPACING  | 30 CM  |          |        | 60 CM    |        |          |       |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |        |          |       |
| LIQUID N |        |          |        |          |        |          |       |
| UREA     | 10.51  | 9.89     | 10.15  | 9.68     |        |          |       |
| UREA+INH | 10.35  | 9.72     | 9.91   | 9.43     |        |          |       |
| N RATE   | 250    |          | 375    |          | 500    |          |       |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |       |
| LIQUID N |        |          |        |          |        |          |       |
| UREA     | 8.64   | 8.46     | 10.56  | 10.30    | 11.79  | 10.60    |       |
| UREA+INH | 8.78   | 8.60     | 10.23  | 9.79     | 11.37  | 10.34    |       |
| N RATE   | 250    |          | 375    |          | 500    |          |       |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |       |
| SPACING  |        |          |        |          |        |          |       |
| 30 CM    | 8.92   | 8.40     | 10.44  | 10.12    | 11.92  | 10.89    |       |
| 60 CM    | 8.50   | 8.66     | 10.35  | 9.98     | 11.24  | 10.04    |       |
| N RATE   | 250    |          | 375    |          | 500    |          |       |
| YEARS    | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 | 75+6+8 | 75+6+7+8 |       |
| LIQUID N |        |          |        |          |        |          |       |
| SPACING  |        |          |        |          |        |          |       |
| UREA     | 30 CM  | 8.81     | 8.15   | 10.69    | 10.41  | 12.03    | 11.10 |
|          | 60 CM  | 8.46     | 8.77   | 10.43    | 10.19  | 11.55    | 10.09 |
| UREA+INH | 30 CM  | 9.03     | 8.65   | 10.19    | 9.82   | 11.82    | 10.68 |
|          | 60 CM  | 8.53     | 8.54   | 10.27    | 9.76   | 10.93    | 10.00 |
| SOLID N  | 0      | 100      | 200    | 300      | 400    | 500      | MEAN  |
| YEARS    |        |          |        |          |        |          |       |
| 75+6+8   |        | 6.55     | 8.41   | 9.27     | 10.72  | 11.35    | 9.26  |
| 75+6+7+8 |        | 5.73     | 7.80   | 9.84     | 10.09  | 10.77    | 8.84  |
| MEAN     | 5.14   | 6.14     | 8.11   | 9.55     | 10.41  | 11.06    | 8.40  |

GRAND MEAN 9.69

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TOTAL OF 6 CUTS DRY MATTER TONNES/HECTARE

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

| TABLE | SOLID N | LIQUID N | SPACING | N RATE |
|-------|---------|----------|---------|--------|
| SED   | 0.258   | 0.105    | 0.105   | 0.129  |

| TABLE | YEARS           | LIQUID N<br>SPACING | LIQUID N<br>N RATE | SPACING<br>N RATE |
|-------|-----------------|---------------------|--------------------|-------------------|
| SED   | 0.095<br>0.147* | 0.149               | 0.182              | 0.182             |

| TABLE  | SOLID N<br>YEARS | LIQUID N<br>YEARS | SPACING<br>YEARS | N RATE<br>YEARS |
|--|------------------|-------------------|------------------|-----------------|
| SED  | 0.347            | 0.142             | 0.142            | 0.174           |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |                  |                   |                  |                 |
| SOLID N  | 0.328            |                   |                  |                 |
| LIQUID N   |                  | 0.134             |                  |                 |
| SPACING  |                  |                   | 0.134            |                 |
| N RATE   |                  |                   |                  | 0.164           |

| TABLE  | LIQUID N<br>SPACING<br>N RATE | LIQUID N<br>SPACING<br>YEARS | LIQUID N<br>N RATE<br>YEARS | SPACING<br>N RATE<br>YEARS |
|--|-------------------------------|------------------------------|-----------------------------|----------------------------|
| SED  | 0.258                         | 0.200                        | 0.245                       | 0.245                      |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |                               |                              |                             |                            |
| LIQUID N.SPACING                                   |                               | 0.190                        |                             |                            |
| LIQUID N.N RATE                                    |                               |                              | 0.232                       |                            |
| SPACING N RATE                                     |                               |                              |                             | 0.232                      |

| TABLE  | LIQUID N<br>SPACING<br>N RATE<br>YEARS |
|--|--|
| SED  | 0.347                                  |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |  |
| LIQUID N.SPACING.N RATE                            | 0.328                                  |

\* USE ONLY IN TABLES INVOLVING SOLID N

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

| STRATUM     | DF | SE    | CV% |
|-------------|----|-------|-----|
| BLOCK.WP    | 16 | 0.258 | 2.7 |
| BLOCK.WP.SP | 17 | 0.328 | 3.4 |

TOTAL OF 6 CUTS MEAN DM% 19.1

SUBPLOT AREA HARVESTED 0.00141