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Use of Fertilizers in England and Wales, 1987

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Use of fertilizers in England and Wales, 1987

J. I. ELSMERE

This series of annual surveys continued in 1987 as a collaborative project between ADAS Soil Scientists, representatives of the Fertiliser Manufacturers' Association and Rothamsted. A sample of 1165 farms was surveyed by Farm Research Limited on behalf of the Fertiliser Manufacturers' Association during June, July and early August. A similar survey was again done in Scotland, with the collaboration of the Scottish Colleges, on a sample of 267 farms. The results of this survey will be reported elsewhere.

Compared with 1986, the survey estimates for England and Wales show very little change in 1987 of total use of N, P and K per hectare for all crops and grass (Table 1). Total use of straight N on winter cereals has increased slightly this year, the use of compound N remaining the same as last year. However, the proportion of the area receiving any N in compound continues to decrease. During the last three years, this area has decreased from 67% to 38% for winter wheat and from 79% to 46% for winter barley. The amount of any N fertilizer being applied to winter cereals between October and December has decreased from 3.4% in 1985 to 2.4% in 1987. Similarly in February, the amount of N applied has dropped from 8.7% to 6.9%.

TABLE 1
Fertilizer use on tillage crops and grassland (kg ha⁻¹) 1984-87

| | Tillage crops | | | | Grassland | | | | All crops and grass | | | |
|-------------------------------|---------------|------|------|------|-----------|------|------|------|---------------------|------|------|------|
| | 1984 | 1985 | 1986 | 1987 | 1984 | 1985 | 1986 | 1987 | 1984 | 1985 | 1986 | 1987 |
| N Straight | 128 | 134 | 133 | 136 | 71 | 70 | 77 | 75 | 99 | 102 | 106 | 105 |
| Compound | 34 | 27 | 24 | 25 | 61 | 62 | 57 | 58 | 48 | 44 | 40 | 41 |
| Total | 162 | 161 | 156 | 160 | 132 | 131 | 135 | 133 | 147 | 146 | 146 | 147 |
| P ₂ O ₅ | 61 | 56 | 56 | 56 | 25 | 24 | 22 | 23 | 42 | 40 | 40 | 39 |
| K ₂ O | 68 | 63 | 62 | 63 | 33 | 32 | 33 | 33 | 50 | 48 | 48b | 48 |

TABLE 2
Fertilizer use on winter wheat, winter barley and spring barley (kg ha⁻¹) 1984-87

| | Winter wheat | | | | Winter barley | | | | Spring barley | | | |
|-------------------------------|--------------|------|------|------|---------------|------|------|------|---------------|------|------|------|
| | 1984 | 1985 | 1986 | 1987 | 1984 | 1985 | 1986 | 1987 | 1984 | 1985 | 1986 | 1987 |
| N Straight | 171 | 181 | 178 | 183 | 131 | 136 | 136 | 140 | 44 | 53 | 58 | 48 |
| Compound | 16 | 11 | 8 | 9 | 18 | 15 | 12 | 12 | 54 | 49 | 45 | 51 |
| Total | 187 | 192 | 186 | 192 | 150 | 150 | 148 | 151 | 98 | 102 | 103 | 99 |
| P ₂ O ₅ | 56 | 54 | 56 | 54 | 57 | 55 | 54 | 55 | 39 | 38 | 37 | 38 |
| K ₂ O | 53 | 52 | 52 | 52 | 59 | 58 | 59 | 58 | 44 | 44 | 44 | 43 |

Total N use on spring barley has decreased this year to 99 kg ha⁻¹, which is similar to that applied in 1984. However, this year, use of compound N has increased from 45 kg ha⁻¹ to 51 kg ha⁻¹ after decreasing gradually during the previous four years. Straight N, however, which has been fluctuating recently, decreased from 58 kg ha⁻¹ in 1986 to 48 kg ha⁻¹ in 1987.

Average N use on sugar beet at 127 kg ha⁻¹ continues to fluctuate but remains at the lower level reached in 1985. This is, however, still above general recommendations. Average use of P and K per hectare has fallen slightly this year to 58 kg ha⁻¹ and 135 kg ha⁻¹ for P and K respectively.

For all tillage crops, use of P and K per hectare has remained steady since 1985 at 56 kg ha⁻¹ for P and 63 kg ha⁻¹ for K.

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Average use of total N on grass decreased slightly this year to 133 kg ha⁻¹. Use of N on grassland is very much determined by how the grass is managed in that particular year, and varies from 212 kg ha⁻¹ on grass cut for silage down to 106 kg ha⁻¹ on grass that is grazed only.

The average amounts of fertilizer nutrients used per hectare in 1987 on individual tillage crops, and on grassland classified according to utilization, and the proportions of each crop which got different amounts of nutrients are summarized in Tables 3-8 at the end of this paper.

The following table shows the average amounts of fertilizer nutrients used per hectare in 1987 on individual tillage crops, and on grassland classified according to utilization, and the proportions of each crop which got different amounts of nutrients are summarized in Tables 3-8 at the end of this paper.

TABLE 3

| Crop | Fertilizer N (kg ha ⁻¹) | | | Fertilizer P (kg ha ⁻¹) | | | Fertilizer K (kg ha ⁻¹) | | |
|--------|-------------------------------------|------|------|-------------------------------------|------|------|-------------------------------------|------|------|
| | 1987 | 1986 | 1985 | 1987 | 1986 | 1985 | 1987 | 1986 | 1985 |
| Wheat | 100 | 100 | 100 | 10 | 10 | 10 | 10 | 10 | 10 |
| Barley | 100 | 100 | 100 | 10 | 10 | 10 | 10 | 10 | 10 |
| Maize | 100 | 100 | 100 | 10 | 10 | 10 | 10 | 10 | 10 |
| Grass | 100 | 100 | 100 | 10 | 10 | 10 | 10 | 10 | 10 |

TABLE 4

| Crop | Fertilizer N (kg ha ⁻¹) | | | Fertilizer P (kg ha ⁻¹) | | | Fertilizer K (kg ha ⁻¹) | | |
|--------|-------------------------------------|------|------|-------------------------------------|------|------|-------------------------------------|------|------|
| | 1987 | 1986 | 1985 | 1987 | 1986 | 1985 | 1987 | 1986 | 1985 |
| Wheat | 100 | 100 | 100 | 10 | 10 | 10 | 10 | 10 | 10 |
| Barley | 100 | 100 | 100 | 10 | 10 | 10 | 10 | 10 | 10 |
| Maize | 100 | 100 | 100 | 10 | 10 | 10 | 10 | 10 | 10 |
| Grass | 100 | 100 | 100 | 10 | 10 | 10 | 10 | 10 | 10 |

TABLE 5

| Crop | Fertilizer N (kg ha ⁻¹) | | | Fertilizer P (kg ha ⁻¹) | | | Fertilizer K (kg ha ⁻¹) | | |
|--------|-------------------------------------|------|------|-------------------------------------|------|------|-------------------------------------|------|------|
| | 1987 | 1986 | 1985 | 1987 | 1986 | 1985 | 1987 | 1986 | 1985 |
| Wheat | 100 | 100 | 100 | 10 | 10 | 10 | 10 | 10 | 10 |
| Barley | 100 | 100 | 100 | 10 | 10 | 10 | 10 | 10 | 10 |
| Maize | 100 | 100 | 100 | 10 | 10 | 10 | 10 | 10 | 10 |
| Grass | 100 | 100 | 100 | 10 | 10 | 10 | 10 | 10 | 10 |

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TABLE 3
Fertilizer use in England and Wales, 1987

| Fields | Hectares ('000) | Overall*(kg ha ⁻¹) | | | % Area receiving | | | | Actual*(kg ha ⁻¹) | | |
|----------------------------|-----------------|--------------------------------|-------------------------------|------------------|------------------|-----|-----|-----|-------------------------------|-------------------------------|------------------|
| | | N | P ₂ O ₅ | K ₂ O | N | P | K | FYM | N | P ₂ O ₅ | K ₂ O |
| Spring wheat | 109 | 138 | 34 | 37 | 99 | 69 | 68 | 13 | 139 | 49 | 54 |
| Winter wheat | 3239 | 192 | 54 | 52 | 100 | 84 | 78 | 13 | 193 | 64 | 66 |
| Spring barley | 1007 | 99 | 38 | 43 | 98 | 89 | 90 | 25 | 101 | 42 | 47 |
| Winter barley | 1555 | 151 | 55 | 58 | 100 | 90 | 86 | 19 | 152 | 61 | 68 |
| Spring oats | 60 | 71 | 39 | 37 | 90 | 89 | 88 | 45 | 79 | 44 | 42 |
| Winter oats | 117 | 104 | 49 | 49 | 95 | 88 | 85 | 20 | 109 | 56 | 58 |
| Rye | 34 | 118 | 31 | 70 | 98 | 71 | 90 | 12 | 121 | 43 | 78 |
| Maize | 28 | 88 | 39 | 40 | 88 | 82 | 78 | 82 | 100 | 48 | 51 |
| Early potatoes | 58 | 179 | 176 | 243 | 100 | 100 | 100 | 55 | 179 | 176 | 243 |
| Maincrop potatoes | 346 | 204 | 221 | 289 | 99 | 99 | 99 | 41 | 207 | 223 | 291 |
| Sugar beet | 478 | 127 | 58 | 135 | 99 | 85 | 95 | 27 | 128 | 68 | 143 |
| Oilseed rape | 592 | 264 | 59 | 54 | 99 | 90 | 82 | 7 | 265 | 66 | 66 |
| Swedes (stock) | 35 | 75 | 83 | 64 | 94 | 92 | 92 | 25 | 80 | 90 | 70 |
| Turnips (stock) | 58 | 75 | 48 | 42 | 93 | 71 | 68 | 35 | 81 | 67 | 61 |
| Kale and cow cabbage | 55 | 109 | 42 | 53 | 92 | 81 | 82 | 51 | 119 | 52 | 65 |
| Rape for stockfeed | 22 | 77 | 34 | 45 | 100 | 88 | 100 | 29 | 77 | 39 | 45 |
| Beans for stockfeed | 221 | 12 | 33 | 32 | 16 | 49 | 47 | 6 | 76 | 68 | 68 |
| Other stockfeed | 90 | 31 | 45 | 53 | 40 | 74 | 72 | 19 | 78 | 61 | 74 |
| Peas for human consumption | 286 | 1 | 28 | 33 | 9 | 49 | 50 | 9 | 14 | 58 | 65 |
| Broad beans | 27 | 2 | 34 | 42 | 11 | 64 | 61 | 18 | 19 | 54 | 68 |
| Runner and French beans | 37 | 37 | 60 | 94 | 98 | 87 | 87 | 3 | 139 | 69 | 108 |
| Brussels sprouts | 43 | 250 | 103 | 210 | 99 | 99 | 99 | 15 | 252 | 104 | 211 |
| Cabbages | 34 | 163 | 71 | 140 | 90 | 81 | 83 | 35 | 180 | 88 | 170 |
| Cauliflower | 63 | 216 | 69 | 141 | 98 | 68 | 68 | 10 | 220 | 102 | 207 |
| Onions | 40 | 137 | 127 | 181 | 99 | 98 | 99 | 12 | 139 | 130 | 184 |
| Small fruit | 68 | 60 | 39 | 59 | 66 | 63 | 72 | 11 | 90 | 62 | 82 |
| Top fruit | 89 | 72 | 13 | 38 | 89 | 53 | 59 | 1 | 81 | 25 | 64 |
| All tillage | 9144 | 160 | 56 | 63 | 94 | 84 | 81 | 17 | 172 | 67 | 79 |
| 1 year leys | 60 | 186 | 33 | 54 | 94 | 62 | 72 | 33 | 199 | 53 | 75 |
| 2-7 year leys | 2478 | 194 | 31 | 54 | 95 | 73 | 76 | 48 | 203 | 43 | 71 |
| Permanent grass | 3464 | 101 | 18 | 22 | 80 | 56 | 56 | 38 | 127 | 32 | 40 |
| All crops and grass | 15146 | 147 | 39 | 48 | 89 | 73 | 72 | 29 | 164 | 54 | 67 |

*The average application of any fertilizer component over all fields including those receiving none is termed 'overall'. The average excluding fields with none of the component is termed 'actual'.

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TABLE 4

Percentages of crop area getting different amounts of N (kg ha^{-1})

| | Fields | 0 | >25 | 25- | 50- | 75- | 100- | 125- | 150- | 200- | 250- | 300- | 400+ |
|----------------------------|--------|----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| Spring wheat | 109 | 1 | 0 | 2 | 0 | 20 | 17 | 21 | 32 | 4 | 3 | 0 | 0 |
| Winter wheat | 3239 | 0 | 0 | 0 | 0 | 2 | 3 | 11 | 37 | 39 | 6 | 0 | 0 |
| Spring barley | 1007 | 2 | 1 | 9 | 18 | 24 | 23 | 16 | 6 | 1 | 0 | 0 | 0 |
| Winter barley | 1555 | 0 | 0 | 1 | 2 | 7 | 15 | 25 | 40 | 9 | 1 | 0 | 0 |
| Spring oats | 60 | 10 | 3 | 14 | 36 | 21 | 7 | 7 | 0 | 2 | 0 | 0 | 0 |
| Winter oats | 117 | 5 | 0 | 7 | 9 | 27 | 20 | 20 | 13 | 0 | 0 | 0 | 0 |
| Rye | 34 | 2 | 0 | 9 | 9 | 7 | 19 | 31 | 19 | 5 | 0 | 0 | 0 |
| Maize | 28 | 12 | 1 | 8 | 25 | 28 | 10 | 6 | 1 | 8 | 0 | 0 | 0 |
| Early potatoes | 58 | 0 | 1 | 5 | 1 | 0 | 1 | 16 | 36 | 39 | 1 | 0 | 0 |
| Maincrop potatoes | 346 | 1 | 0 | 0 | 0 | 1 | 4 | 8 | 34 | 33 | 15 | 3 | 0 |
| Sugar beet | 478 | 1 | 0 | 5 | 4 | 12 | 21 | 34 | 19 | 2 | 1 | 0 | 0 |
| Oilseed rape | 592 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 5 | 24 | 44 | 23 | 0 |
| Swedes (stock) | 35 | 6 | 6 | 4 | 42 | 13 | 22 | 6 | 1 | 0 | 0 | 0 | 0 |
| Turnips (stock) | 58 | 7 | 11 | 22 | 20 | 11 | 10 | 11 | 8 | 0 | 0 | 0 | 0 |
| Kale and cow cabbage | 55 | 8 | 2 | 10 | 4 | 24 | 22 | 5 | 24 | 0 | 1 | 1 | 0 |
| Rape for stockfeed | 22 | 0 | 0 | 40 | 25 | 21 | 0 | 14 | 0 | 0 | 0 | 0 | 0 |
| Beans for stockfeed | 221 | 84 | 6 | 3 | 0 | 1 | 0 | 1 | 5 | 0 | 0 | 0 | 0 |
| Other stockfeed | 90 | 60 | 11 | 2 | 6 | 7 | 5 | 6 | 2 | 0 | 0 | 0 | 0 |
| Peas for human consumption | 286 | 91 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Broad beans | 27 | 89 | 9 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Runner and French beans | 37 | 2 | 0 | 0 | 2 | 12 | 31 | 22 | 30 | 0 | 1 | 0 | 0 |
| Brussels sprouts | 43 | 1 | 0 | 0 | 0 | 0 | 8 | 8 | 10 | 8 | 49 | 11 | 5 |
| Cabbages | 34 | 10 | 0 | 11 | 0 | 8 | 2 | 21 | 9 | 24 | 9 | 1 | 5 |
| Cauliflower | 63 | 2 | 0 | 9 | 0 | 0 | 0 | 14 | 1 | 45 | 13 | 12 | 4 |
| Onions | 40 | 1 | 2 | 1 | 13 | 13 | 20 | 4 | 33 | 6 | 5 | 3 | 0 |
| Small fruit | 68 | 34 | 11 | 9 | 8 | 14 | 13 | 6 | 1 | 1 | 3 | 0 | 0 |
| Top fruit | 89 | 11 | 5 | 14 | 31 | 9 | 8 | 17 | 4 | 0 | 0 | 0 | 0 |
| All tillage | 9144 | 6 | 1 | 2 | 4 | 6 | 9 | 14 | 27 | 22 | 7 | 2 | 0 |
| 1 year leys | 60 | 6 | 0 | 6 | 10 | 3 | 8 | 5 | 11 | 28 | 8 | 6 | 8 |
| 2-7 year leys | 2478 | 5 | 1 | 8 | 7 | 9 | 5 | 9 | 13 | 12 | 10 | 16 | 6 |
| Permanent grass | 3464 | 20 | 3 | 16 | 11 | 12 | 8 | 7 | 7 | 4 | 5 | 5 | 1 |
| All crops and grass | 15146 | 11 | 1 | 8 | 7 | 8 | 8 | 11 | 18 | 14 | 7 | 5 | 2 |

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TABLE 5
Percentages of crop area getting different amounts of P_2O_5 ($kg\ ha^{-1}$)

| Fields | 0 | >25 | 25- | 50- | 75- | 100- | 125- | 150- | 200- | 250- | 300- | 400+ |
|----------------------------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|
| Spring wheat | 31 | 9 | 31 | 25 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Winter wheat | 16 | 2 | 16 | 49 | 13 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| Spring barley | 11 | 20 | 45 | 21 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Winter barley | 10 | 4 | 18 | 54 | 11 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spring oats | 60 | 11 | 44 | 24 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Winter oats | 117 | 5 | 26 | 50 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rye | 34 | 29 | 0 | 63 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maize | 28 | 18 | 9 | 53 | 6 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| Early potatoes | 58 | 0 | 0 | 1 | 9 | 4 | 13 | 43 | 22 | 8 | 1 | 0 |
| Maincrop potatoes | 346 | 1 | 0 | 0 | 3 | 2 | 8 | 27 | 31 | 16 | 12 | 1 |
| Sugar beet | 478 | 15 | 2 | 30 | 11 | 6 | 5 | 1 | 0 | 0 | 0 | 0 |
| Oilseed rape | 592 | 10 | 2 | 15 | 13 | 3 | 1 | 2 | 0 | 0 | 0 | 0 |
| Swedes (stock) | 35 | 8 | 0 | 25 | 17 | 15 | 9 | 20 | 1 | 4 | 1 | 0 |
| Turnips (stock) | 58 | 29 | 14 | 19 | 7 | 7 | 2 | 6 | 0 | 0 | 0 | 0 |
| Kale and cow cabbage | 55 | 19 | 13 | 29 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rape for stockfeed | 22 | 12 | 40 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Beans for stockfeed | 221 | 1 | 8 | 28 | 9 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| Other stockfeed | 90 | 26 | 6 | 28 | 5 | 7 | 1 | 1 | 0 | 0 | 0 | 0 |
| Peas for human consumption | 286 | 51 | 0 | 16 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Broad beans | 27 | 36 | 5 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Runner and French beans | 37 | 13 | 0 | 40 | 10 | 15 | 1 | 0 | 0 | 0 | 0 | 0 |
| Brussels sprouts | 43 | 1 | 0 | 6 | 7 | 3 | 8 | 15 | 3 | 0 | 4 | 0 |
| Cabbages | 34 | 19 | 2 | 16 | 22 | 1 | 8 | 0 | 10 | 0 | 0 | 0 |
| Cauliflower | 63 | 32 | 0 | 6 | 23 | 9 | 15 | 0 | 5 | 0 | 0 | 0 |
| Onions | 40 | 2 | 2 | 3 | 4 | 37 | 11 | 0 | 0 | 1 | 3 | 0 |
| Small fruit | 68 | 37 | 10 | 35 | 4 | 5 | 2 | 0 | 0 | 0 | 2 | 0 |
| Top fruit | 89 | 47 | 32 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| All tillage | 9144 | 16 | 5 | 20 | 10 | 2 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 year leys | 60 | 38 | 14 | 29 | 7 | 2 | 4 | 0 | 0 | 0 | 0 | 0 |
| 2-7 year leys | 2478 | 27 | 26 | 13 | 4 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Permanent grass | 3464 | 44 | 32 | 15 | 6 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| All crops and grass | 15146 | 27 | 17 | 19 | 25 | 6 | 2 | 1 | 1 | 1 | 0 | 0 |

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TABLE 6

Percentages of crop area getting different amounts of K_2O ($kg\ ha^{-1}$)

| | Fields | 0 | >25 | 25- | 50- | 75- | 100- | 125- | 150- | 200- | 250- | 300- | 400+ |
|----------------------------|--------|----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| Spring wheat | 109 | 32 | 8 | 27 | 24 | 6 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Winter wheat | 3239 | 22 | 2 | 14 | 42 | 14 | 4 | 1 | 0 | 0 | 0 | 0 | 0 |
| Spring barley | 1007 | 10 | 15 | 41 | 28 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| Winter barley | 1555 | 14 | 3 | 12 | 49 | 15 | 5 | 1 | 0 | 0 | 0 | 0 | 0 |
| Spring oats | 60 | 12 | 18 | 46 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Winter oats | 117 | 15 | 4 | 20 | 48 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rye | 34 | 10 | 0 | 17 | 17 | 36 | 19 | 0 | 0 | 1 | 0 | 0 | 0 |
| Maize | 28 | 22 | 6 | 45 | 16 | 9 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Early potatoes | 58 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 18 | 28 | 29 | 16 | 0 |
| Maincrop potatoes | 346 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 8 | 21 | 27 | 35 | 6 |
| Sugar beet | 478 | 5 | 0 | 2 | 7 | 18 | 17 | 12 | 20 | 17 | 2 | 0 | 0 |
| Oilseed rape | 592 | 18 | 1 | 12 | 53 | 11 | 3 | 1 | 1 | 0 | 0 | 0 | 0 |
| Swedes (stock) | 35 | 8 | 20 | 20 | 17 | 17 | 4 | 10 | 1 | 4 | 0 | 0 | 0 |
| Turnips (stock) | 58 | 32 | 16 | 12 | 23 | 4 | 10 | 4 | 0 | 0 | 0 | 0 | 0 |
| Kale and cow cabbage | 55 | 18 | 11 | 14 | 26 | 23 | 4 | 3 | 0 | 0 | 0 | 0 | 0 |
| Rape for stockfeed | 22 | 0 | 20 | 59 | 14 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| Beans for stockfeed | 221 | 53 | 0 | 7 | 29 | 7 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Other stockfeed | 90 | 28 | 4 | 11 | 38 | 7 | 6 | 2 | 1 | 3 | 0 | 0 | 0 |
| Peas for human consumption | 286 | 50 | 0 | 9 | 30 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Broad beans | 27 | 39 | 0 | 9 | 45 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Runner and French beans | 37 | 13 | 0 | 16 | 19 | 14 | 0 | 10 | 28 | 0 | 0 | 0 | 0 |
| Brussels sprouts | 43 | 1 | 0 | 0 | 8 | 0 | 2 | 4 | 29 | 45 | 3 | 5 | 4 |
| Cabbages | 34 | 17 | 2 | 12 | 4 | 0 | 7 | 6 | 9 | 42 | 0 | 0 | 0 |
| Cauliflower | 63 | 32 | 0 | 0 | 2 | 0 | 1 | 12 | 22 | 12 | 16 | 2 | 0 |
| Onions | 40 | 1 | 1 | 2 | 3 | 18 | 5 | 10 | 31 | 3 | 17 | 8 | 3 |
| Small fruit | 68 | 28 | 1 | 24 | 24 | 7 | 8 | 2 | 2 | 2 | 0 | 2 | 0 |
| Top fruit | 89 | 41 | 19 | 6 | 24 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 0 |
| All tillage | 9144 | 19 | 4 | 16 | 37 | 12 | 4 | 2 | 2 | 2 | 1 | 1 | 0 |
| 1 year leys | 60 | 28 | 11 | 9 | 12 | 31 | 1 | 0 | 7 | 1 | 0 | 0 | 0 |
| 2-7 year leys | 2478 | 24 | 17 | 17 | 15 | 8 | 7 | 4 | 4 | 2 | 1 | 0 | 0 |
| Permanent grass | 3464 | 44 | 27 | 16 | 8 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 |
| All crops and grass | 15146 | 28 | 13 | 16 | 24 | 8 | 4 | 2 | 2 | 1 | 1 | 1 | 0 |

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TABLE 7
Fertilizer use on grassland classified by utilization †

| Fields | %Grassland area | Overall*(kg ha ⁻¹) | | | % Area receiving | | | | Actual*(kg ha ⁻¹) | | |
|---------------------------|-----------------|--------------------------------|-------------------------------|------------------|------------------|----|----|-----|-------------------------------|-------------------------------|------------------|
| | | N | P ₂ O ₅ | K ₂ O | N | P | K | FYM | N | P ₂ O ₅ | K ₂ O |
| Paddock grazed not mown | 2 | 187 | 21 | 19 | 88 | 51 | 54 | 30 | 213 | 41 | 35 |
| 54 mown | 1 | 253 | 35 | 86 | 98 | 69 | 76 | 44 | 259 | 51 | 114 |
| All paddock grazed | 3 | 206 | 25 | 38 | 91 | 56 | 60 | 34 | 227 | 44 | 64 |
| Strip grazed not mown | 1 | 257 | 40 | 31 | 100 | 61 | 51 | 48 | 258 | 66 | 60 |
| 85 mown | 2 | 181 | 35 | 51 | 98 | 80 | 79 | 69 | 185 | 43 | 64 |
| All strip grazed | 3 | 215 | 37 | 42 | 99 | 71 | 66 | 59 | 218 | 52 | 63 |
| Set stocked not mown | 16 | 160 | 21 | 23 | 87 | 57 | 57 | 34 | 184 | 37 | 40 |
| 696 mown | 10 | 212 | 31 | 62 | 97 | 71 | 79 | 58 | 218 | 43 | 79 |
| All set stocked | 26 | 180 | 25 | 38 | 91 | 62 | 66 | 44 | 198 | 40 | 59 |
| Other grazings not mown | 38 | 76 | 16 | 16 | 73 | 53 | 52 | 27 | 104 | 30 | 30 |
| 1927 mown | 27 | 143 | 27 | 48 | 94 | 73 | 76 | 61 | 152 | 37 | 63 |
| All other grazings | 64 | 104 | 20 | 29 | 82 | 61 | 62 | 41 | 127 | 33 | 47 |
| All grazings | 96 | 131 | 22 | 32 | 85 | 62 | 63 | 42 | 154 | 36 | 51 |
| Cut for seed not grazed | 0 | 254 | 33 | 50 | 95 | 62 | 68 | 0 | 268 | 54 | 73 |
| 22 grazed | 0 | 160 | 58 | 36 | 100 | 70 | 63 | 6 | 160 | 82 | 57 |
| All cut for seed | 0 | 200 | 47 | 42 | 98 | 67 | 65 | 4 | 205 | 71 | 64 |
| Cut for silage not grazed | 2 | 265 | 42 | 84 | 96 | 82 | 89 | 32 | 277 | 50 | 95 |
| 1082 extensively grazed | 15 | 187 | 31 | 64 | 97 | 79 | 83 | 69 | 192 | 40 | 77 |
| 624 intensively grazed | 9 | 243 | 34 | 76 | 99 | 78 | 87 | 65 | 246 | 44 | 88 |
| All cut for silage | 26 | 212 | 33 | 70 | 98 | 79 | 85 | 65 | 216 | 42 | 82 |
| Cut for hay not grazed | 1 | 129 | 28 | 34 | 91 | 51 | 51 | 22 | 142 | 55 | 67 |
| 58 extensively grazed | 11 | 80 | 20 | 25 | 89 | 64 | 64 | 49 | 90 | 31 | 39 |
| 248 intensively grazed | 4 | 127 | 24 | 29 | 93 | 60 | 63 | 45 | 136 | 40 | 45 |
| All cut for hay | 15 | 94 | 21 | 26 | 90 | 62 | 63 | 47 | 104 | 34 | 42 |
| 2997 mowings | 42 | 169 | 29 | 54 | 95 | 73 | 77 | 58 | 178 | 40 | 70 |
| Not stated/Not used | 2 | 58 | 20 | 19 | 61 | 50 | 49 | 16 | 95 | 40 | 38 |
| All grass | 100 | 132 | 22 | 33 | 85 | 62 | 63 | 41 | 156 | 36 | 52 |

*The average application of any fertilizer component over all fields including those receiving none is termed 'overall'. The average excluding fields with none of the component is termed 'actual'.
†Note that fields which are both grazed and mown will appear in both grazing and mowing sections of the table.

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TABLE 8
Percentages of crop area getting different amounts of N (kg ha⁻¹)

| Fields | 0 | >25 | 25- | 50- | 75- | 100- | 125- | 150- | 200- | 250- | 300- | 400+ |
|-----------------------|------|-----|-----|-----|-----|------|------|------|------|------|------|------|
| Paddock grazed | | | | | | | | | | | | |
| not mown | 187 | 12 | 3 | 13 | 9 | 3 | 9 | 2 | 4 | 3 | 15 | 13 |
| mown | 54 | 2 | 0 | 4 | 0 | 4 | 0 | 1 | 11 | 23 | 31 | 12 |
| All paddock grazed | 241 | 9 | 2 | 11 | 7 | 3 | 6 | 1 | 6 | 9 | 20 | 12 |
| Strip grazed | | | | | | | | | | | | |
| not mown | 73 | 0 | 0 | 1 | 2 | 6 | 6 | 2 | 7 | 13 | 21 | 38 |
| mown | 85 | 2 | 0 | 8 | 0 | 10 | 4 | 21 | 19 | 15 | 11 | 7 |
| All strip grazed | 158 | 1 | 0 | 5 | 1 | 8 | 5 | 13 | 13 | 14 | 16 | 21 |
| Set stocked | | | | | | | | | | | | |
| not mown | 761 | 13 | 3 | 9 | 7 | 9 | 9 | 8 | 9 | 6 | 8 | 13 |
| mown | 696 | 3 | 0 | 3 | 4 | 9 | 6 | 9 | 16 | 15 | 10 | 17 |
| All set stocked | 1457 | 9 | 2 | 7 | 6 | 9 | 8 | 12 | 10 | 9 | 14 | 6 |
| Other grazings | | | | | | | | | | | | |
| not mown | 1944 | 27 | 2 | 22 | 12 | 11 | 6 | 6 | 6 | 3 | 1 | 3 |
| mown | 1927 | 6 | 3 | 12 | 13 | 13 | 7 | 10 | 10 | 8 | 9 | 8 |
| All other grazings | 3871 | 18 | 2 | 18 | 13 | 12 | 6 | 8 | 8 | 5 | 5 | 1 |
| All grazings | 5727 | 15 | 2 | 14 | 10 | 11 | 7 | 8 | 9 | 7 | 7 | 8 |
| Cut for seed | | | | | | | | | | | | |
| not grazed | 21 | 5 | 2 | 0 | 0 | 8 | 0 | 29 | 12 | 5 | 14 | 0 |
| grazed | 22 | 0 | 0 | 0 | 6 | 5 | 4 | 26 | 33 | 22 | 2 | 0 |
| All cut for seed | 43 | 2 | 1 | 0 | 4 | 7 | 3 | 28 | 24 | 15 | 7 | 0 |
| Cut for silage | | | | | | | | | | | | |
| not grazed | 146 | 4 | 0 | 0 | 1 | 1 | 5 | 4 | 18 | 14 | 13 | 26 |
| grazed extensively | 1082 | 3 | 1 | 6 | 8 | 11 | 6 | 9 | 13 | 12 | 15 | 13 |
| grazed intensively | 624 | 1 | 0 | 2 | 2 | 6 | 4 | 6 | 16 | 19 | 14 | 9 |
| All cut for silage | 1852 | 2 | 0 | 4 | 6 | 8 | 5 | 8 | 14 | 14 | 15 | 17 |
| Cut for hay | | | | | | | | | | | | |
| not grazed | 58 | 9 | 0 | 8 | 15 | 16 | 3 | 10 | 25 | 5 | 0 | 7 |
| grazed extensively | 786 | 11 | 5 | 21 | 19 | 17 | 9 | 10 | 6 | 2 | 1 | 1 |
| grazed intensively | 248 | 7 | 3 | 9 | 7 | 15 | 11 | 20 | 12 | 7 | 5 | 2 |
| All cut for hay | 1092 | 10 | 4 | 17 | 16 | 16 | 9 | 13 | 8 | 3 | 2 | 1 |
| All mowings | 2997 | 5 | 2 | 9 | 9 | 11 | 7 | 10 | 12 | 11 | 10 | 11 |
| Not stated/Not used | 70 | 39 | 12 | 5 | 9 | 11 | 12 | 4 | 5 | 1 | 1 | 2 |
| All grass | 6032 | 15 | 2 | 14 | 10 | 10 | 7 | 8 | 9 | 7 | 7 | 8 |