



Livestock Farming

Handout 10

Daily Nutrient Requirements of Breeding Stock in a Beef Herd

Daily Nutrient Requirements of Breeding Stock in a Beef Herd.

| Live mass (kg) | Daily gain (kg/day) | Min DM consumption (kg/day) | Roughage (%) | ME (MJ) | CP (g) | DP (g) | Ca (g) | P (g) | Vit A '000 IU |
|-------------------------------------------------------------|------------------------|--------------------------------|-----------------|------------|-----------|-----------|-----------|----------|------------------|
| Pregnant yearling heifers - last 3 to 4 months of pregnancy | | | | | | | | | |
| 325 | 0.4 | 6.6 | 100 | 53 | 580 | 340 | 15 | 15 | 19 |
| | 0.6 | 8.5 | 100 | 68 | 750 | 420 | 18 | 18 | 23 |
| | 0.8 | 9.4 | 85-100 | 84 | 850 | 500 | 22 | 20 | 26 |
| 350 | 0.4 | 6.9 | 100 | 55 | 610 | 350 | 15 | 15 | 19 |
| | 0.6 | 8.9 | 100 | 71 | 780 | 450 | 19 | 19 | 25 |
| | 0.8 | 10 | 85-100 | 88 | 880 | 510 | 22 | 21 | 28 |
| 375 | 0.4 | 7.2 | 100 | 57 | 630 | 360 | 15 | 15 | 20 |
| | 0.6 | 9.3 | 100 | 74 | 810 | 460 | 19 | 19 | 26 |
| | 0.8 | 11 | 85-100 | 92 | 960 | 550 | 22 | 22 | 31 |
| 400 | 0.4 | 7.5 | 100 | 59 | 650 | 380 | 16 | 16 | 21 |
| | 0.6 | 9.7 | 100 | 77 | 840 | 480 | 19 | 19 | 27 |
| | 0.8 | 11.6 | 85-100 | 96 | 1010 | 500 | 22 | 22 | 33 |
| 425 | 0.4 | 7.8 | 100 | 62 | 690 | 400 | 16 | 16 | 22 |
| | 0.6 | 10.1 | 100 | 80 | 880 | 500 | 19 | 19 | 28 |
| | 0.8 | 12.1 | 85-100 | 100 | 1050 | 600 | 22 | 22 | 34 |
| Dry, pregnant mature cows - middle third of pregnancy | | | | | | | | | |
| 350 | | 5.5 | 100 | 45 | 320 | 150 | 10 | 10 | 15 |

| Live mass (kg) | Daily gain (kg/day) | Min DM consumption (kg/day) | Roughage (%) | ME (MJ) | CP (g) | DP (g) | Ca (g) | P (g) | Vit A '000 IU |
|---------------------------------------------------------------------------------|------------------------|--------------------------------|-----------------|------------|-----------|-----------|-----------|----------|------------------|
| 400 | | 6.1 | 100 | 50 | 360 | 170 | 11 | 11 | 17 |
| 450 | | 6.7 | 100 | 54 | 390 | 190 | 12 | 12 | 19 |
| 500 | | 7.2 | 100 | 59 | 420 | 200 | 13 | 13 | 20 |
| 550 | | 7.7 | 100 | 63 | 450 | 220 | 14 | 14 | 22 |
| 600 | | 8.3 | 100 | 67 | 490 | 230 | 15 | 15 | 23 |
| Dry, pregnant mature cows - last third of pregnancy | | | | | | | | | |
| 350 | 0.4 | 6.9 | 100 | 55 | 410 | 190 | 12 | 12 | 19 |
| 400 | 0.4 | 7.5 | 100 | 60 | 440 | 210 | 14 | 14 | 21 |
| 450 | 0.4 | 8.1 | 100 | 64 | 480 | 230 | 15 | 15 | 23 |
| 500 | 0.4 | 8.6 | 100 | 69 | 510 | 240 | 15 | 15 | 24 |
| 550 | 0.4 | 9.1 | 100 | 73 | 540 | 250 | 16 | 16 | 26 |
| 600 | 0.4 | 9.7 | 100 | 77 | 570 | 270 | 17 | 17 | 27 |
| Cows nursing calves - average milking ability - first 3 to 4 months post partum | | | | | | | | | |
| 350 | | 8.2 | 100 | 67 | 750 | 440 | 24 | 24 | 19 |
| 400 | | 8.8 | 100 | 71 | 810 | 480 | 25 | 25 | 21 |

| Live mass (kg) | Daily gain (kg/day) | Min DM consumption (kg/day) | Roughage (%) | ME (MJ) | CP (g) | DP (g) | Ca (g) | P (g) | Vit A '000 IU |
|----------------------------------------------------------------------------------|------------------------|--------------------------------|-----------------|------------|-----------|-----------|-----------|----------|------------------|
| 450 | | 9.3 | 100 | 76 | 860 | 500 | 26 | 26 | 23 |
| 500 | | 9.8 | 100 | 80 | 900 | 530 | 27 | 27 | 24 |
| 550 | | 10.5 | 100 | 85 | 970 | 570 | 28 | 28 | 26 |
| 600 | | 11 | 100 | 89 | 1010 | 590 | 28 | 28 | 27 |
| Cows nursing calves - superior milking ability - first 3 to 4 months post partum | | | | | | | | | |
| 350 | | 10.2 | 100 | 88 | 1110 | 650 | 45 | 40 | 32 |
| 400 | | 10.8 | 100 | 92 | 1170 | 690 | 45 | 41 | 34 |
| 450 | | 11.3 | 100 | 97 | 1230 | 720 | 45 | 42 | 36 |
| 500 | | 11.8 | 100 | 102 | 1290 | 760 | 46 | 43 | 38 |
| 550 | | 12.4 | 100 | 106 | 1350 | 790 | 46 | 44 | 41 |
| 600 | | 12.9 | 100 | 110 | 1410 | 830 | 46 | 44 | 43 |
| Bulls - growth and maintenance (moderate activity) | | | | | | | | | |

| Live mass (kg) | Daily gain (kg/day) | Min DM consumption (kg/day) | Roughage (%) | ME (MJ) | CP (g) | DP (g) | Ca (g) | P (g) | Vit A '000 IU |
|-------------------|------------------------|--------------------------------|-----------------|------------|-----------|-----------|-----------|----------|------------------|
| 300 | 1 | 8.8 | 70-75 | 85 | 900 | 550 | 27 | 23 | 34 |
| 400 | 0.9 | 11 | 70-75 | 105 | 1030 | 620 | 23 | 23 | 43 |
| 500 | 0.7 | 12.2 | 80-85 | 113 | 1070 | 620 | 22 | 22 | 48 |
| 600 | 0.5 | 12 | 80-85 | 110 | 1020 | 600 | 22 | 22 | 48 |
| 700 | 0.3 | 12.9 | 90-100 | 116 | 1080 | 600 | 23 | 23 | 50 |
| 800 | 0 | 10.5 | 100 | 88 | 890 | 500 | 19 | 19 | 41 |
| 900 | 0 | 11.4 | 100 | 96 | 990 | 550 | 21 | 21 | 44 |
| 1000 | 0 | 12.4 | 100 | 104 | 1050 | 600 | 22 | 22 | 48 |

Minimum DM consumption is based on the general type of diet indicated in the roughage column.

Approximately 0.4 kg of weight gain over the last third of pregnancy is accounted for by the products of conception

Avg milking ability = 5 kg per day, Superior milking ability = 10 kg per day

Roughage = good quality roughage containing at least 8 MJ ME/kg