GUIDELINES FOR THE MANAGEMENT OF FARMED DONKEYS

2. NUTRITION: FOOD AND WATER
Nutrition: food and water

Dietary provision of nutrients needed for normal health and productive functions.

Donkeys have evolved to thrive on highly fibrous, low energy foodstuffs and are naturally browsers as well as grazers. They have different nutrient requirements and need significantly less energy (calories) and protein than horses.

Whilst most donkeys will typically thrive on diets consisting predominantly of high fibre, low energy forages, those used for production purposes may require additional nutrients (extra energy, protein, vitamins or minerals). These additional nutrients can be provided in the form of higher nutritional quality forages or by offering smaller quantities of more nutrient dense additional (supplementary) feeds.

Dietary management of the donkey is essential to avoid health issues. A reduction in their energy intake could result in a condition called hyperlipaemia, which will lead to ill health, a drop in production and a risk of death.

Diet and water intake will vary according to the donkey’s stage of life, level of production, body condition, health, dental status and the type of housing and the climatic conditions where they live. Example diets for donkeys with differing nutritional needs are included in this leaflet.

Key points

- Donkeys should be fed and watered according to their stage of life, level of production, body condition, health and dental status, and the type of housing and climatic conditions where they live.
- Donkeys are highly efficient at digesting fibrous, poor nutritional quality plant material.
- Donkeys have lower energy and protein requirements than horses.
- An appropriate source of fibre should be available for at least 14–18 hours a day.
- Donkeys used for production purposes may need their diet supplementing in order to meet their increased nutritional requirements.
- If energy expenditure exceeds energy intake donkeys will be at risk of developing hyperlipaemia, which can result in death.
- Donkeys should have constant access to clean, fresh water.
- Lactating donkeys will have an increased requirement for water.
- Body condition scoring is different for donkeys and protocols used for horses and ponies are not suitable.
- New-born foals should receive colostrum within the first 12 hours of life.

Factsheets

1. Dietary Requirements
2. Donkey Body Condition Score Chart
3. Donkey Weight Estimator
4. Example diets for the mature donkey
5. Example diets for different stages of production; the pregnant donkey and the lactating donkey
6. Vitamin and mineral dietary allowances for donkeys
Always

- Provide an appropriate diet to maintain donkeys in good health and satisfy their individual nutritional needs according to their level of production, age, body condition, health and dental status. See Factsheet 1 for important dietary information.

- Provide donkeys with a diet high in fibre and with an energy content appropriate to their body condition, activity level and stage of production.

- Allow access to forage or appropriate grazing for at least 14–18 hours a day.

- Ensure the total non-structural carbohydrate (sugar + starch) content of the diet is less than 15% and ideally less than 10% on a dry matter basis.

- Carry out body condition scoring (feeling for the amount of muscle and fat covering the donkey’s bones) at least once a month to monitor correct energy intake.

- Individuals with a poor condition score should be examined by a vet to check for any health issues. See Factsheet 2 for donkey-specific body scoring tool.

- Use forage and feeds which are free from dust or mould.

- Store feed in vermin proof, waterproof containers.

- Clean leftover forage/feed from the troughs and dispose of it daily, out of reach of the donkeys.

- Carry out any changes in the feeding regime gradually, over 7-14 days.

- Use feed and water troughs and buckets that are free from sharp edges or rust.

- Position feed troughs in a clean, dry area at a height accessible for all donkeys.

- Provide sufficient feeding space and distribute forage evenly so all animals can feed at the same time with minimal conflict.

- Provide clean, fresh water with easy access at all times.

- Avoid putting water troughs and buckets in direct sunlight, as this can encourage the growth of algae.

- Avoid providing ice cold water because donkeys may be reluctant to drink it. During extreme cold temperatures consider using a water heater or offering warm water.

A lack of sufficient water intake may increase the risk of impaction colic

- Check the functioning of automatic drinkers regularly to ensure they are working correctly and that donkeys are using them.
2. NUTRITION: FOOD AND WATER

**Aim to**

- Monitor the donkeys weight regularly to identify gradual changes. Their weight can be estimated using a donkey specific weight estimator. See Factsheet 3.

- Have forage samples analysed to determine the nutritional quality and suitability for the animals you intend on feeding it to. Wet chemistry is the most accurate analysis method.

- Separate donkeys that require supplementary feeds from the group for feeding, but keep them within sight of companions.

- Avoid overfeeding of supplementary rations. The amount given should be enough to meet (but not exceed) the demands of production.

- Use logs or branches for added enrichment and browsing, but be aware that some trees are poisonous to donkeys.

- Provide access to grazing, this can improve mental wellbeing, encourage exercise and supplement the diet.

  **Ensure grazing is free from poisonous weeds/plants and ensure fencing is safe and secure**

- Provide donkeys with free access to shelter at all times, to protect them from the weather and from insect activity.

Supplementary feeds based on fibre or fat sources should be used in preference to those based upon cereal grains. Products containing high levels of molasses should be avoided.
Donkeys at maintenance

Maintenance refers to the amount of nutrients needed each day to support normal bodily functions (e.g. metabolism during rest, activity for maintenance [walking to food/water, grazing] and temperature regulation). Maintenance recommendations should be used as a guide to base dietary decisions but adjustments both up and down may need to be made depending on the individual animal and time of year.

- Provide donkeys with a diet predominantly based around low energy, fibrous forages along with appropriate provision of vitamins and minerals. See Factsheet 4 for example diets for mature donkeys. See Factsheet 6 for estimated vitamin and mineral requirements.
- Provide a constant supply of appropriate fibre throughout the day/night to satisfy the donkey’s natural appetite (1.3–1.7% body weight in dry weight) and their need to forage.

Pregnant donkeys

- Feed as for maintenance in the early stages of pregnancy, adding a vitamin and mineral supplement or forage balancer if not already being fed.
- During the last 3 months of pregnancy, gradually increase the amount of energy and protein in the diet and provide double the maintenance requirement for calcium and phosphorous. See Factsheet 5 for example diets used by The Donkey Sanctuary.
- Increase the most energy-rich fibre fraction of the diet but consider supplementing the diet if the female donkey cannot meet her energy and protein requirements on forage alone.
- Provision of nutrients across the total diet should be enough to meet, but not exceed, the demands of production.

- Body condition score monthly - aim for a slight increase in body condition before foaling (BCS 3.5–4) to allow for expected weight loss in the early stages of lactation.
- Introduce any new feeds gradually over a period of 4–6 weeks.

Provide sufficient energy intake during late pregnancy and watch for lack of appetite to avoid hyperlipaemia, which can result in death.

- Aim to keep the total non-structural carbohydrate (sugar + starch) content of the diet less than 10% (on a dry matter basis).
- Use short-chopped fibre sources for donkeys with poor dental function and dampen/soak any supplementary feeds to reduce the risk of colic and choke.
2. NUTRITION: FOOD AND WATER

**Lactating donkeys**
- Provide sufficient protein in the diet: a high forage content diet may not provide enough protein to meet the requirements of lactating donkeys and supplementary feeds may be needed. See Factsheet 5 for example diets used by The Donkey Sanctuary.
- Body condition score monthly to monitor the expected weight loss in the early stages of lactation.
- Consider supplementing the diet during the first 2–3 months of lactation to minimise any loss in body weight and aim at a condition score of 3. See Factsheet 2 Donkey Body Condition Score chart.
- Provision of nutrients across the total diet should be enough to meet, but not exceed, the demands of production.
- Lactating donkeys should have constant access to mineral blocks if not receiving a feed supplement.

**Foals**
- Ensure that a new-born foal receives colostrum within the first 12 hours of life. See Factsheet 1 for more information on the dietary requirements of new born foals.
- Provide a source of colostrum if the foal is rejected or orphaned; this should be obtained from the mother or another female donkey soon after she has given birth.
- It is recommended that a supply of donkey colostrum is kept frozen on farm which can be defrosted and used when fresh colostrum is not available.

**Youngstock**
- Provide immature growing donkeys with sufficient energy to allow them to grow at a steady rate.
- Monitor their growth rate every two weeks and avoid periods of rapid growth or retardation.
- Cessation of growth is an obvious indication that there is some sort of health problem or nutritional deficit present.
- Provide calcium and phosphorus at a ratio of 2:1. Growing donkey foals may be at risk of lacking calcium and phosphorous. Do not feed bran in an unbalanced diet over long periods.
- Provide constant access to salt blocks.
Factsheet 1: Dietary requirements

Important facts

Key to the formulation of management and dietary plans is awareness that the dietary requirements of donkeys are very different to those of horses and ponies.

Energy:

- Voluntary dry matter intake (DMI) for donkeys fed on fibrous low energy forages is 1.3–1.7% daily of their bodyweight in dry matter.
- Mature donkeys that are kept at maintenance require between 80–95kJ DE per kg BW/day (the upper value will apply during winter months when the energy requirement of donkeys tends to increase. The lower value will apply during the height of summer).
- Low energy forages (7 MJ/kg or less) are ideal for donkeys at maintenance so they can eat enough in a day to satisfy their natural appetite and the behavioural need to forage without becoming obese.
- Cereal straws are an ideal low energy fibre source for donkeys with good dentition but always ensure the straw contains few cereal heads or retained loose grain in order to prevent excess energy and starch intake.
- A dull donkey with poor appetite is a clinical emergency and should be examined by a vet immediately.
- Donkeys are highly prone to developing hyperlipaemia if energy expenditure exceeds energy intake. Hyperlipaemia will lead to ill health, a drop in production and a risk of death.

Protein:

- Protein requirements for the donkey are significantly lower than those of horses and ponies.
- Crude protein (CP) requirements are 40g CP/100kg BW/day. For most mature, healthy donkeys, protein intake will be sufficient once digestible energy requirements are satisfied.
- Additional protein may be needed by youngstock, pregnant and lactating donkeys.
- Soya bean meal or alfalfa are excellent sources of digestible protein.
Vitamins and Minerals

- Appropriate levels of vitamins and minerals are similar to requirements for horses and ponies.
- Pasture-fed donkeys are unlikely to develop vitamin deficiencies.
- Young or geriatric animals may be vulnerable to vitamin deficiency, particularly when intake of fresh forage is restricted or they are housed for long periods of time.
- Levels of vitamins in conserved forages such as straw and hay are often low and will diminish as storage time increases.
- Diets either lacking in or having an imbalanced calcium: phosphorus ratio (Ca:P) can lead to orthopaedic disease, bone deformity and secondary nutritional hyperparathyroidism.
- Careful consideration must be given to high levels of phosphorus in commonly fed crop by-products such as rice bran, wheat bran and cotton seed and the oxalate levels (which interfere with calcium absorption) of some tropical grasses.

Water

- Water intake in donkeys is about 4–9% of bodyweight (BW) per day during rest. These requirements may vary depending on the diet and will be significantly increased during warm weather and during lactation.
- Donkeys may not show obvious signs of thirst and will maintain appetite even when dehydrated.
- 250kg donkey at maintenance needs to drink 10-22.5 litres of fresh water each day at rest. In warm weather or if the donkey is lactating they are likely to drink more.

Pregnant donkeys

- The demands of the growing foetus only exceed the normal maintenance requirements of the donkey in the final three months of pregnancy.
- Voluntary intake of forage will likely decrease as the foetus increases in size. The energy density of the diet should therefore be increased during the last 90 days of pregnancy.
- Digestible energy (DE) allowances should be increased by 11% above maintenance in the ninth month, 13% in the 10th month and 20% in the final month of pregnancy.
- Care should be taken to ensure energy requirements are met to reduce the risk of the female donkey becoming hyperlipaemic.

- 250kg donkey 9 months pregnant needs to eat daily 3.0 – 4.4 kg of dry matter a day and will have an energy requirement of 22 – 26 MJ/day
- 250kg donkey 10 months pregnant needs to eat daily 3.0 – 4.4 kg of dry matter a day and will have an energy requirement of 22.5 – 27 MJ/day
- 250kg donkey 11 months pregnant needs to eat daily 3.0 – 4.25 kg of dry matter a day and will have an energy requirement of 24 – 28.8 MJ/day
Lactating donkeys

- Lactation places severe physiologic demands on the female donkey.
- Energy requirements are likely to be nearly double that of a barren or early pregnant donkey.
- Protein, calcium and phosphorus requirements are also likely to be elevated.
- A lactating donkey must consume enough nutrients to meet the needs of lactation and to maintain her own body stores.
- Failure to meet the dietary requirements of lactating females can result in the use of body stores to maintain milk production and composition.

Foals

- A foal’s first feed should ideally be within 2 – 4 hours of birth.
- Colostrum must be given within the first 12 hours of life.
- The recommended amount of colostrum is 250ml every hour for the first six hours, making a total of 1.5 litres.
- Absorption rapidly falls to less than 25% efficiency by three hours of age so foals should be encouraged to feed as soon as possible, whilst considering the need to maintain the bond between mother and foal.
- IgG levels in the foal can be measured 16–20 hours after birth; IgG levels should be greater than 800 mg/dl of plasma.
- Lactating females have a high risk of developing hyperlipaemia.
- Hyperlipaemia will have an adverse effect on colostrum quality and milk production and may increase the risk of failure of passive immune transfer (FPIT).

- If IgG levels are low, give the foal urgent treatment to ensure survival. Intravenous administration of hyperimmune plasma by a veterinary surgeon will be necessary.
- An alternative source of colostrum should be provided if the foal is rejected or orphaned.
- Colostrum can be kept frozen at -15 to -20°C in 250ml batches and defrosted slowly for use when required.
- If hand-rearing foals, the use of fresh donkey milk is preferable but, if unavailable, horse or goat milk or horse milk replacer should be used.

See Leaflet 4: Guidelines for Farmed Donkeys: Reproduction for further advice on the management of the orphan foal.
### Factsheet 2: Donkey body condition score chart

Accurate Body condition scoring is a hands-on process for feeling the amount of muscle and fat that are covering the donkey’s bones. Using this chart as a guide, feel the coverage over the bones in five specific areas listed below. Fat deposits may be unevenly distributed especially over the neck and hindquarters. Some resistant fat deposits may be retained in the event of weight loss or may calcify (harden).

Careful assessment of all areas should be made and combined, to give an overall score. When deciding on the correct course of action following condition scoring, you might have to take into consideration the age of the donkey and any veterinary conditions they have. Aged donkeys can be hard to condition score due to lack of muscle bulk and tone giving thin appearance dorsally with dropped belly ventrally, while overall condition may be reasonable. If in doubt, get advice from your vet.

<table>
<thead>
<tr>
<th>Condition score</th>
<th>Neck/throat, all bone visible and felt</th>
<th>Neck thin, neck meets shoulder abruptly, shoulders bone visible</th>
<th>Some muscle development, bones felt under light pressure</th>
<th>Good muscle development, bones felt under light pressure. Neck flows smoothly into shoulder, which is rounded</th>
<th>Neck thick, crest hard, shoulder covered in even fat layer.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Poor (very thin)</td>
<td>Hip bones visible easily, under light (neck, rump and hind bone) Little muscle cover may be present under tail.</td>
<td>Poor muscle cover on neck and shoulders. Hip bones felt with ease.</td>
<td>Possible muscle cover over Withers, spinous processes felt but not prominent.</td>
<td>Good muscle cover over withers. Muscle development appears smooth, with muscle cover under light pressure.</td>
<td>Neck thick, crest bulging with fat, shoulders covered in even fat layer.</td>
</tr>
<tr>
<td>2. Moderate (underweight)</td>
<td>Backbone prominent, can feel dorsal and transverse processes easily.</td>
<td>Dorsal and transverse processes felt with light pressure. Poor muscle development.</td>
<td>Can feel individual spinous or transverse processes with firm pressure.</td>
<td>Muscle development either side of midline is good.</td>
<td>Hip bones visible and felt easily (dock and pin bones). Little muscle cover.</td>
</tr>
<tr>
<td>3. Ideal</td>
<td>Backbone prominent, can feel dorsal and transverse processes easily.</td>
<td>Dorsal and transverse processes felt with light pressure. Poor muscle development.</td>
<td>Can feel individual spinous or transverse processes with firm pressure.</td>
<td>Muscle development either side of midline is good.</td>
<td>Hip bones visible and felt easily (dock and pin bones). Little muscle cover.</td>
</tr>
<tr>
<td>4. Overweight (fat)</td>
<td>Backbone prominent, can feel dorsal and transverse processes easily.</td>
<td>Dorsal and transverse processes felt with light pressure. Poor muscle development.</td>
<td>Can feel individual spinous or transverse processes with firm pressure.</td>
<td>Muscle development either side of midline is good.</td>
<td>Hip bones visible and felt easily (dock and pin bones). Little muscle cover.</td>
</tr>
<tr>
<td>5. Obese (very fat)</td>
<td>Backbone prominent, can feel dorsal and transverse processes easily.</td>
<td>Dorsal and transverse processes felt with light pressure. Poor muscle development.</td>
<td>Can feel individual spinous or transverse processes with firm pressure.</td>
<td>Muscle development either side of midline is good.</td>
<td>Hip bones visible and felt easily (dock and pin bones). Little muscle cover.</td>
</tr>
</tbody>
</table>
Factsheet 3: Donkey weight estimator

To estimate a donkey's weight using the diagram below mark the height and heart girth measurements on the correct axis. Then draw a line between the two. The donkey’s weight is indicated by where the line crosses the weight axis. For example, a donkey 104cm tall (a) and with a heart girth 122cm (b) should weigh 181kg (c).

![Diagram of donkey weight estimator]

Whilst the weight estimator is an effective tool to estimate weight, its accuracy cannot be guaranteed.

Weight estimation table for donkeys under 2 years

<table>
<thead>
<tr>
<th>Heart Girth (cm)</th>
<th>75</th>
<th>76</th>
<th>77</th>
<th>78</th>
<th>79</th>
<th>80</th>
<th>81</th>
<th>82</th>
<th>83</th>
<th>84</th>
<th>85</th>
<th>86</th>
<th>87</th>
<th>88</th>
<th>89</th>
<th>90</th>
<th>91</th>
<th>92</th>
<th>93</th>
<th>94</th>
<th>95</th>
<th>96</th>
<th>97</th>
<th>98</th>
<th>99</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg)</td>
<td>46</td>
<td>47</td>
<td>49</td>
<td>51</td>
<td>53</td>
<td>55</td>
<td>57</td>
<td>59</td>
<td>61</td>
<td>63</td>
<td>65</td>
<td>67</td>
<td>69</td>
<td>71</td>
<td>74</td>
<td>76</td>
<td>78</td>
<td>81</td>
<td>83</td>
<td>86</td>
<td>88</td>
<td>91</td>
<td>94</td>
<td>96</td>
<td>99</td>
<td>102</td>
</tr>
</tbody>
</table>
**Factsheet 4: Example diets for the mature donkey (Per 100kg BW)**

**Mature donkeys fed on fibrous forages:**

<table>
<thead>
<tr>
<th>Type of Requirement</th>
<th>MJ, DE per 100Kg BW/day</th>
<th>Daily DMI requirement % BW/day</th>
<th>Example diet (per 100Kg BW/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance requirements (summer)</td>
<td>8</td>
<td>1.3</td>
<td>1.2 kg barley straw (5 MJ DE/kg DM) and forage balancer + either limited grazing or 0.27 kg moderate hay (8 MJ DE/kg DM)</td>
</tr>
<tr>
<td>Maintenance requirements (winter)</td>
<td>9.5</td>
<td>1.7</td>
<td>1.6 kg barley straw (5 MJ DE/kg DM) and forage balancer + 0.22 kg moderate hay (8 MJ DE/kg DM)</td>
</tr>
<tr>
<td>Dieting donkey fed to achieve goal weight (summer)</td>
<td>7.3</td>
<td>1.3</td>
<td>1.3 kg barley straw (5 MJ DE/kg DM) and forage balancer + either very limited grazing or 0.1 kg moderate hay (8 MJ DE/kg DM)</td>
</tr>
<tr>
<td>Dieting donkey fed to achieve goal weight (winter)</td>
<td>8.5</td>
<td>1.7</td>
<td>1.7 kg barley straw (5 MJ DE/kg DM) and forage balancer + very limited grazing</td>
</tr>
<tr>
<td>(Aged) donkey with dental disease (summer)</td>
<td>8.0 – 8.5</td>
<td>1.3</td>
<td>1.3 kg short chop hay replacer (7.3 MJ DE/kg DM assuming 85% DM) + forage balancer (if the short chop is not a complete feed)</td>
</tr>
<tr>
<td>(Aged) donkey with dental disease (winter)</td>
<td>9.5 – 10.0</td>
<td>1.7</td>
<td>1.6 kg short chop hay replacer (7.3 MJ DE/kg DM assuming 85% DM) + forage balancer (if the short chop is not a complete feed)</td>
</tr>
</tbody>
</table>

The table includes estimated dry matter intakes and practical dietary recommendations. DE values assume a dry matter content of 90% unless otherwise stated, foodstuffs such as haylage should be evaluated for DE levels per kg as fed and if unsure forage analysis is recommended.

Forage balancer refers to a concentrated pellet vitamin, mineral and protein supplement which does not act as a significant source of energy and which is designed to balance a forage only diet.
## Factsheet 5: Example diets for different stages of production; the pregnant donkey and the lactating donkey (per 100 kg BW)

### Pregnant donkeys in the final 3 months of pregnancy:

<table>
<thead>
<tr>
<th>Type of Requirement</th>
<th>MJ, DE per 100Kg BW/day</th>
<th>Daily DMI requirement % BW/day</th>
<th>Example diet (per 100Kg BW/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 months gestation (summer)</td>
<td>8.88</td>
<td>1.3</td>
<td>0.5 kg barley straw (5 MJ DE/kg DM) and high protein balancer + either grazing or 0.75 kg moderate hay (8.5 MJ DE/kg DM)</td>
</tr>
<tr>
<td>10 months gestation (summer)</td>
<td>9.1</td>
<td>1.3</td>
<td>0.2 kg barley straw (5 MJ DE/kg DM) + 0.95 kg moderate hay (8.5 MJ DE/kg DM) and high protein balancer</td>
</tr>
<tr>
<td>11 months gestation (summer)</td>
<td>9.6</td>
<td>1.3</td>
<td>1.15 kg moderate hay (8.5 MJ DE/kg DM) + high protein balancer + grazing</td>
</tr>
<tr>
<td>9 months gestation (winter)</td>
<td>10.4</td>
<td>1.4 – 1.75</td>
<td>0.65 kg barley straw (5 MJ DE/kg DM) + 0.85 kg moderate hay (8.5 MJ DE/kg DM) and high protein balancer</td>
</tr>
<tr>
<td>10 months gestation (winter)</td>
<td>10.7</td>
<td>1.4 – 1.75</td>
<td>0.2 kg barley straw (5 MJ DE/kg DM) + 1.15 kg moderate hay (8.5 MJ DE/kg DM) and high protein balancer</td>
</tr>
<tr>
<td>11 months gestation (winter)</td>
<td>11.4</td>
<td>1.4 – 1.7</td>
<td>1.2 kg moderate hay (8.5 MJ DE/kg DM) + 0.13 kg alfalfa chop (9 MJ DE/kg DM) and high protein balancer</td>
</tr>
</tbody>
</table>

The table includes estimated dry matter intakes and practical dietary recommendations. DE values assume a dry matter content of 90% unless otherwise stated, foodstuffs such as haylage should be evaluated for DE levels per kg as fed and if unsure forage analysis is recommended.

High protein balancer – concentrated pellet vitamin and mineral supplement with a high protein specification suited to pregnant and lactating donkeys. Balancers do not act as a significant source of energy but are designed to balance a predominantly forage only diet.
### Lactating donkey

<table>
<thead>
<tr>
<th>Type of Requirement</th>
<th>MJ, DE per 100Kg BW/day</th>
<th>Daily DMI requirement % BW/day</th>
<th>Example diet (per 100Kg BW/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st month lactation</td>
<td>15.3</td>
<td>1.3 – 1.7</td>
<td>1.5 kg good hay (9 MJ DE/kg DM) and high protein balancer + grazing or 0.16 kg alfalfa oil chop (11.2 MJ DE/kg DM)</td>
</tr>
<tr>
<td>(summer)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd month lactation</td>
<td>15.2</td>
<td>1.3 – 1.7</td>
<td>1.5 kg good hay (9 MJ DE/kg DM) and high protein balancer + grazing or 0.15 kg alfalfa oil chop (11.2 MJ DE/kg DM)</td>
</tr>
<tr>
<td>(summer)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd month lactation</td>
<td>14.7</td>
<td>1.3 – 1.7</td>
<td>1.5 kg good hay (9 MJ DE/kg DM) and high protein balancer + grazing or 0.1 kg alfalfa oil chop (11.2 MJ DE/kg DM)</td>
</tr>
<tr>
<td>(summer)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th month lactation</td>
<td>14.2</td>
<td>1.3 – 1.7</td>
<td>1.45 kg good hay (9 MJ DE/kg DM) and high protein balancer + grazing or 0.1 kg alfalfa oil chop (11.2 MJ DE/kg DM)</td>
</tr>
<tr>
<td>(summer)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5th month lactation</td>
<td>13.6</td>
<td>1.3 – 1.7</td>
<td>1.45 kg good hay (9 MJ DE/kg DM) and high protein balancer + grazing or 0.05Kg alfalfa oil chop (11.2 MJ DE/kg DM)</td>
</tr>
<tr>
<td>(summer)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th month lactation</td>
<td>13.2</td>
<td>1.3 – 1.7</td>
<td>1.45 kg good hay (9 MJ DE/kg DM) and high protein balancer + grazing</td>
</tr>
<tr>
<td>(summer)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st month lactation</td>
<td>16.8</td>
<td>1.5 – 1.75</td>
<td>1.5 kg good hay (9 MJ DE/kg DM) and high protein balancer + grazing or 0.3kg alfalfa oil chop (11.2 MJ DE/kg DM)</td>
</tr>
<tr>
<td>(winter)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd month lactation</td>
<td>16.7</td>
<td>1.5 – 1.75</td>
<td>1.5 kg good hay (9 MJ DE/kg DM) and high protein balancer + grazing or 0.28 kg alfalfa oil chop (11.2 MJ DE/kg DM)</td>
</tr>
<tr>
<td>(winter)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd month lactation</td>
<td>16.2</td>
<td>1.5 – 1.75</td>
<td>1.5 kg good hay (9 MJ DE/kg DM) and high protein balancer + grazing or 0.25kg alfalfa oil chop (11.2 MJ DE/kg DM)</td>
</tr>
<tr>
<td>(winter)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th month lactation</td>
<td>15.7</td>
<td>1.5 – 1.75</td>
<td>1.5 kg good hay (9 MJ DE/kg DM) and high protein balancer + grazing or 0.2kg alfalfa oil chop (11.2 MJ DE/kg DM) and high protein balancer</td>
</tr>
<tr>
<td>(winter)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5th month lactation</td>
<td>15.1</td>
<td>1.5 – 1.75</td>
<td>1.5 kg good hay (9 MJ DE/kg DM) and high protein balancer + grazing or 0.15kg alfalfa oil chop (11.2 MJ DE/kg DM)</td>
</tr>
<tr>
<td>(winter)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th month lactation</td>
<td>14.6</td>
<td>1.3 – 1.7</td>
<td>1.5 kg good hay (9 MJ DE/kg DM) and high protein balancer + grazing or 0.1kg alfalfa oil chop (11.2 MJ DE/kg DM)</td>
</tr>
<tr>
<td>(winter)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table includes estimated dry matter intakes and practical dietary recommendations. DE values assume a dry matter content of 90% unless otherwise stated, foodstuffs such as haylage should be evaluated for DE levels per kg as fed and if unsure forage analysis is recommended.

High protein balancer – concentrated pellet vitamin and mineral supplement with a high protein specification suited to pregnant and lactating donkeys. Balancers do not act as a significant source of energy but are designed to balance a predominantly forage-only diet.
Factsheet 6: Vitamin & mineral dietary allowances for donkeys

The levels of vitamins and minerals recommended for horses and ponies represent an appropriate, optimal level of provision however, The Donkey Sanctuary believes that donkeys are able to survive on vitamin and mineral levels lower than those recommended for horses/ponies.

Vitamin Dietary Allowances for Donkeys*

<table>
<thead>
<tr>
<th>Required Vitamin Level per 100Kg/BW</th>
<th>Maintenance</th>
<th>Pregnant and Lactating Jennies</th>
<th>Growing Donkeys</th>
<th>Working Donkeys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin A (IU/100Kg BW)</td>
<td>3000</td>
<td>6000</td>
<td>2310</td>
<td>4500</td>
</tr>
<tr>
<td>Vitamin D (IU/100Kg BW)</td>
<td>660</td>
<td>660</td>
<td>1025</td>
<td>660</td>
</tr>
<tr>
<td>Vitamin E (IU/100Kg BW)</td>
<td>100</td>
<td>100</td>
<td>105</td>
<td>160</td>
</tr>
<tr>
<td>Vitamin B₁ -Thiamine (mg/100Kg BW)</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Vitamin B₂ -Riboflavin (mg/100Kg BW)</td>
<td>4</td>
<td>4</td>
<td>2.5</td>
<td>4</td>
</tr>
</tbody>
</table>

Mineral Dietary Allowances for Donkeys*

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Maintenance</th>
<th>Pregnant Jennies (last trimester)</th>
<th>Lactating Jennies (1st month)</th>
<th>Growing Donkeys (based on mature wgt)</th>
<th>Working Donkeys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium (Ca)</td>
<td>4</td>
<td>7</td>
<td>12</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Phosphorus (P)</td>
<td>3</td>
<td>5</td>
<td>8</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Magnesium (Mg)</td>
<td>1.5</td>
<td>1.5</td>
<td>2.3</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Potassium (K)</td>
<td>5</td>
<td>5.2</td>
<td>9.6</td>
<td>2.9</td>
<td>5.7</td>
</tr>
<tr>
<td>Sodium (Na)</td>
<td>2</td>
<td>2.2</td>
<td>2.6</td>
<td>1.1</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Trace Elements (mg/100Kg BW)

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Maintenance</th>
<th>Pregnant Jennies (last trimester)</th>
<th>Lactating Jennies (1st month)</th>
<th>Growing Donkeys</th>
<th>Working Donkeys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron (Fe)</td>
<td>60</td>
<td>75</td>
<td></td>
<td>39</td>
<td>60</td>
</tr>
<tr>
<td>Manganese (Mn)</td>
<td>60</td>
<td>60</td>
<td></td>
<td>31</td>
<td>60</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>20</td>
<td>25</td>
<td></td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>Zinc (Zn)</td>
<td>60</td>
<td>60</td>
<td></td>
<td>31</td>
<td>60</td>
</tr>
<tr>
<td>Selenium (Se)</td>
<td>0.15</td>
<td>0.15</td>
<td></td>
<td>0.1</td>
<td>0.15</td>
</tr>
<tr>
<td>Iodine (I)</td>
<td>0.5</td>
<td>0.6</td>
<td></td>
<td>0.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Cobalt (Co)</td>
<td>0.1</td>
<td>0.1</td>
<td></td>
<td>0.1</td>
<td>0.1</td>
</tr>
</tbody>
</table>

* These figures are based on recommendations for horses. Data from NRC (2007).
Further Information

Handbooks, educational material, factsheets and leaflets are available for further information on the following websites:

The Donkey Sanctuary

Information and support for professionals:
• www.thedonkeysanctuary.org.uk/what-we-do/for-professionals

Information and support for owners:
• www.thedonkeysanctuary.org.uk/what-we-do/knowledge-and-advice/for-owners

ICWE – The International Coalition for Working Equids
• www.icweworkingequids.org

The Donkey Sanctuary can be contacted for advice:
• Use the form on the Contact Us page of the website
• Email us at enquiries@thedonkeysanctuary.org.uk
• Phone us at 00 44 1395 578222

For specific advice on nutrition and feeding:
• Use the nutrition advice form at https://bray.news/feed
• Email us at nutrition@thedonkeysanctuary.org.uk
GOOD NUTRITION IS ESSENTIAL FOR OPTIMUM HEALTH AND WELLBEING.

FEEDING YOUR HERD FOR GOOD HEALTH

Feed according to the donkeys stage of life, body condition and level of production.

Body condition score is a good indication of correct nutrition.

Provide constant access to fresh, clean water.

Allow access to an appropriate source of fibre for at least 14 – 18 hours a day.

Buckets and troughs for food and water must be clean with no rust or sharp edges.

Provide minerals and vitamins suitable for equines as a supplement.