TO THE POINT CLASS LECTURES (PART III)

EQUINE & CAMEL PRODUCTION (LM 404)

MID COMPLETE

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Signs of Plant Poisoning in Camels & their Treatment

Some plants cause severe poisoning and death, while others cause mild disease such as stomach pain and/or diarrhoea. Poisoning due to different plants results in different symptoms. Camels usually recognize certain poisonous plants and avoid eating them.
However, a camel may eat such plants when it is without feed for a long time or when it is moved into new grazing areas with no experience of the local vegetation.

Some of the following symptoms may result from poisoning due to different plants:

- Excitement, depression, weakness, loss of coordination
- Stumbling, jumping, running in circles
- Groaning, kicking of the belly, bloat, stomach pain
- Shivering, twitching in the face, head and neck, fits, convulsions, salivation or foaming at the mouth, difficulty in breathing, excessive sweating, uncontrolled urination, diarrhoea, vomiting, strange behaviour such as pressing the head against a post or a tree stump.
- Stiffness, paralysis, coma and death

Prevention lies in avoiding grazing in areas known to have poisonous plants. Most of the treatments for poisoning are based on removing the poison from the body. These medicines are called purgatives, such as Epsom salt (magnesium sulphate, castor oil, mustard and linseed oils and liquid paraffin to make the animal excrete the poison in the faeces. Drenching with charcoal (½ kg ground charcoal) mixed with 3 to 4 litres of water helps prevent the absorption of more poison from stomach. Drench with 200 g kaolin (China clay) mixed with water. Repeat each day for 4 to 5 days (K. Rollefson *et al*., 2001).

Buxus semper virens (Phappar): It is an abdundant plant in Punjab (Pakistan) and Iran. It causes swelling of throat, cough, swollen belly, pain, vomiting and straining to defaecate, hard dry dung at first, then becoming soft, then evil-smelling diarrhoea, sometimes severe hiccough. The camel may die within 3 days.
The animal should be drenched with soup made from sheep fat. Mix 60 ml (about 12 teaspoons) of turpentine with 1 litre of linseed oil and drench. About an hour later, drench with warm ghee and milk. Inject 130 mg of arecoline subcut to make the animal defaecate. Then give linseed tea or warm ghee and milk every 4 hours to soothe the inflamed gullet, stomach and intestines.

Calotropis procera (Aak): Camels do not usually eat this plant, but if they do they may vomit and have diarrohea.

Capparis tomentosa: It is found in many African countries and in some parts of
Australia. The camel's neck becomes twisted into an S-shape. The animal is weak in legs and staggers, convulses, death takes place in most cases within 24 hours after the symptoms appear. One of the treatments for poisoning listed above may be used. Better graze animals away from areas with many *Capparis* shrubs, especially along river banks.

Cassia occidentalis (*Senna, Kesudo*): It causes diarrhoea. The animal usually recovers unless a large amount of this plant has been eaten. Rice gruel given every 3 to 4 hours leads to recovery.

Datura alba (*Thorn apple*, *dhatura*): A bush with large angular leaves, white funnel shaped flowers and prickly fruit, usually found on banks of water courses. The affected camel becomes very quiet and goes to sleep.
Bloat also develops. Drench the camel with a purgative such as 0.5 to 1kg Epsom salt or one litre of castor oil/linseed oil/liquid paraffin and 2 to 4 kg ghee. Repeat the administration of ghee every 4 hours until the camel has recovered.

Euphorbia tirucalli (Milk-bush): It is a bush with small thorns but no leaves, growing in thickets beside water courses in some African countries. The milky sap is intensely irritating. The symptoms and treatment are the same as for *Buxus semper* virens.

Lantana indica (Lantana): This plant appears to be very poisonous to camels. Major symptoms are diarrhoea, sensitivity to light and rapid death. To eliminate the poisoning effects, drench three times with 250 g of ghee mixed with 250 g of jaggery.

Nerium oleander (Oleander, Nora, Kaneer): Normally camels do not eat it but those not familiar with this plant can eat and are affected. The camel stops feeding and starts vomiting 6 to 8 hours after eating the plant. There is dullness, shivering, yawning, staggering, diarrhoea, convulsions and the camel may die after about one day.
Immediately drench with 1 kg of Mag. sulphate. Also drench with 2 to 3 litres of linseed oil or a mixture of 4 litres of milk with 8 eggs. Inject 130 mg of arecoline subcut to make the animal defaecate. Only once a day, mix a little of tartaric acid in water and force the animal to drink it. About 5 minutes later, drench with 3 g of potassium permanganate dissolved in water. Inject 0.01 to 0.1g of atropine sulphate subcut. It relaxes the intestines.

Sorghum bicolour (Sorghum, Jowar): Sorghum stunted under drought conditions contains cyanide, a poisonous substance. When used in this condition, it causes poisoning in many livestock species including the camel. It causes bloat and severe pain in the belly followed by difficult breathing and death.
Mix up to 25 g of ammonium carbonate with oil and water and drench. Drench with 500 to 1000 ml of Tympanyl or liquid paraffin. Inject 0.01 to 0.1g of atropine under the skin. As a last resort, puncture the rumen with a trocar and cannula or a sharp knife.

Milking in Camels

Camels have four teats like those of buffaloes and cows. They are milked traditionally by men. Because of the height of the udder milking is done standing with one knee raised to support the milking bowl. Under most circumstances one-half of the udder is milked and the other one simultaneously suckled by the calf. Occasionally both udder halves are milked at the same time by two herdsmen. Not all camels accept this, particularly during the early stages of lactation, and in most cases the calf has to suckle first to stimulate milk let-down.

In later stages of lactation, it is normally sufficient that the calf is present but does not need to suckle. Sometimes, when the calf is stillborn or dies early after birth, its skin is used to build a calf dummy that is shown to the mother to induce the release of milk. This is successful when the mother has had calves before, mostly it does not work with first calvers. In many such cases the mother will simply dry up within a week. These animals are quite often immediately bred again with good success.

Frequency of Milking in Camels

The frequency of milking camels is variable and depends on supply of and demand for milk. Several factors affect milking frequency such as season, the quantity of milk produced per animal, the number of milking camels present, availability of other food for the herders household and sex, age and health of calves. Higher frequencies commonly produce a higher total yield, which is noticeable up to four milkings a day. It is not unusual to milk camel up to six times a day.

Products from Camel Milk

For many years it was thought that because of its composition, it is difficult to convert camel milk into butter. There were apparently similar problems with making cheese.

Recent research on the chemistry and biochemistry of camel milk and advances in processing technology have made it possible to make both butter and cheese without too much difficulty. Processing time may, however, be longer than for other milks and techniques have to be adapted to the peculiarities of camel milk. Other traditional products such as fermented milks are not difficult to make and are highly appreciated by the owners.

Camel butter is pale in colour and sometimes has a slightly greasy texture. Milk takes a long time to cream, partly because of the size and distribution of the fat globules but also because camel milk fat contains a high proportion of fats with high melting points and a lower proportion that melt at about 15°C. Coagulation of cheese takes 2 to 4 times longer than for milk of other species but can be greatly reduced by adding 15g/100 litres milk of calcium sulphate ($CaSO_4$) or calcium chloride ($CaCl_2$). The usual bacteria can be used to form surface moulds (*P. caseicolum*) and blue cheeses (*P. roquefortii*). The taste of all types of camel cheese is generally acceptable to most people. Other products of lesser overall importance but which are made in various areas to suit local tastes are a variety of yogurts, soured milks, ice cream, Khir etc.

Production of Camel Meat

Milk and work, in a wider sense, are the principal products of the camel. Meat is usually a by-product of a camel system and comes mainly from old males and females that have served usefully in other functions in earlier life. Only a limited number of castrated males are raised especially for slaughter. Of course, there are sizeable exceptions to the camel meat as to its being a by-product of a camel system. For example about 0.17 million camels are slaughtered in various countries by well-to-do adult Muslims on their annual religious festival called Eid-ul-Azha. At least 50% of this number are young male camels aged around 4 years. Many people keep and very fondly raise the camels simply for the sacrificial slaughter on this annual festival. The number of sheep, goats and cattle slaughtered by the Muslims with the same objective on this religious occasion around the world far exceeds 12 million.

All About Camel Meat

Camel meat is a good source of protein but a lesser source of energy. The meat of one average sized camel will provide a person with 35 days supply of protein but only 5 days of energy. While camel meat is usually from old animals, it often has a specialized market. Camel meat markets, except in Sudan, are not well developed, but lucrative export

opportunities to Egypt, Libya, Saudi Arabia and Gulf States do exist. It has been scored as high as or better than beef by taste panels in the Arab states. Even outside Arab States, meat from young camels has been graded as having the taste of a good beef.

Camel meat is usually only a small proportion of the meat consumed in a country. In Pakistan, approximately 70 to 75 camels are slaughtered daily in various slaughterhouses except on meatless days. In several African and Asian countries, the consumption of camel meat is equivalent to 5 to 50% of nationally produced red meat. The meat is usually eaten fresh, cooked as such or in minced form, but is sometimes air-dried. Meat from camel is also used for sausages, in which form it has cooking and taste qualities similar to those made from beef.

Dressing Percentage of Camel

Dressing percentages of camels are in the range of 45 to 55%, exceptionally up to 60% in well fed animals. Using standard cattle butchery procedures, forequarters comprise about 34% of the total carcass, while the hindquarters constitute 25%. The rest of the carcass includes about 5.0% liver, heart and lungs, with the head being 3.6% and the feet about 4.3%. The wet hide is equivalent to about 10.0% of liveweight and the blood to about 3%.

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