Sodium chloride deficiency

A dietary deficiency of sodium is most likely to occur under certain conditions such as

1-During lactation, as a consequence of losses of the element in the milk, in rapidly growing young animals fed on low-sodium, cereal-based diets

2-Under very hot environmental conditions where large losses of water and sodium occur in the sweat and where the grass forage and the seeds may be low in sodium

3-In animals engaged in heavy or intense physical work and in animals grazing pastures on sandy soils heavily fertilized with potash,which depresses forage sodium level

Clinical findings …

1- there is polyuria, polydipsia, salt hunger, pica, including licking dirt and coats, drinking urine, loss of appetite and weight, and a fall in milk production.
2- Urination is frequent and the urine has a lower than normal specific gravity and the urine concentrations of sodium and chloride are decreased and the potassium increased.

3-The salivary concentration of sodium is markedly decreased, the potassium is increased, and the salivary sodium:potassium ratio is decreased

Treatment…

1-0.7 of salts must added to food

2-Salts block

Deficiency of energy

Etiology….

1-It occur when inadequate amount of feed available, or the feed may be of low quality

2- Supplies of feed may be inadequate because of over grazing, drought, snow covering, or it may be too expensive to be fed to the animals.

3- Available feed may be of such low quality and digestibility that animals cannot consume enough to meet energy requirements

4- In some cases, forage may contain a high concentration of water, which limits total energy intake

Clinical findings ….

The clinical findings of energy deficiency depends on the age of the animal, whether or not it is pregnant or in lactation, the presence of concurrent deficiencies of other nutrients and environmental influences.. and in general

1-In young animals results in retarded growth and delay in the onset of puberty
2- In mature animals, there is a marked decline in milk production and a shortened lactation. there is also a marked loss of body weight,especially during high demands for energy as in late pregnancy and early lactation.
3- A prolonged energy deficiency in pregnant beef heifers will result in a failure to produce adequate quantities of colostrum at parturition
4- There are prolonged periods of anestrus lasting up to several months, which has a marked effect on reproductive perfonnance
5- prolonged deficiency of energy during late gestation may result in undersized, weak neonates with a high mortality rate
6- deficiency of energy during prolonged periods of cold weather, especially in pregnant beef cattle, and ewes being wintered on poor quality roughage, may result in abomasal impaction
7- Heat loss from the animal to the environment increases during cold weather
8- If sufficient feed is not available, the animal will mobilize energy stored as fat or muscle to maintain body temperature and thus lose body weight.
9- Cold, windy, and wet weather will increase the needs for energy and the effects of a deficiency are exaggerated, resulting in weakness, recumbency and death
10- A sudden dietary deficiency of energy in fat, pregnant beef cattle and ewes can result in starvation ketosis and pregnancy toxemia and Hyperlipemia may also result .

Treatment
Prevent the primary cause …

Deficiency of protein

A deficiency of protein commonly accompanies a deficiency of energy. However, the effects of the protein deficiency, at least in the early stages, are usually not as severe as those of energy.
Clinical findings ….
1- Insufficient protein intake in young animals results in reduced appetite, lowered feed intake, inferior growth rate, lack of muscle evelopment,and a prolonged time to reach maturity.In mature animals, there is loss of weight and decreased milk production.
2- In both young and mature animals, there is a drop in hemoglobin concentration, packed cell volume, total serum protein, and serum albumin. In the late stages, there is edema associated with the hypoproteinemia.
3-same in energy .