

1. WATER TOXIC

- Suddenly, excessive water consumption is caused by the deterioration of the osmotic balance.
- It can be observed in calves at 2 months.
- diarrhea, paralysis, muscular tremor, coordination disorder and edema occur.
- The free water consumption of the sick animals should be prevented and physiological saline should be given as liquid (2-3 l in 5% solution, 300 ml 10% solution in heavy venous venous solution).

Ammonia poisoning (urea poisoning)

- ❖ Urea:
- ❖ to participate in more than ration,
- ❖ consuming well without mixing,
- ❖ high amounts of exercise
- ❖ the absence of an adequate amount of easy-to-assessable energy sources in the ration is effective.
- ❖ Urea, ammonia and carbon dioxide are decomposed by urease.

- Increased ammonia and pH value in the rumen increases the absorption of ammonia, the portal comes to the liver through the pathway where the toxic effect is removed by turning to urea.

Ammonia growth above the capacity to detoxify the ammonia into the liver increases the level of ammonia, normally 1 mg / l, to 6 mg / l.

Symptoms such as respiratory, feed consumption disorders, increase in saliva secretion, impaired rumen motor function, tremor in the muscles and cramps are observed.

- Ammonia poisoning cases are not seen in the presence of carbonic acid caused by easily digestible carbohydrates.
- For the release of ammonia poisoning, the pH in the rumen fluid should be above 6 and the concentration of ammonia should increase to the upper limit of 1000 mg / l.
- When rumen pH is lower than 6, the amount of ruminal ammonia may increase without poisoning.

Nitrate poisoning

- The nitrate replaces the oxygen in the rumen as it turns into nitrite and is absorbed into the blood. Blood cannot carry oxygen and the cow is at the point of suffocation (nitrite poisoning)

SYMPTOMS:

Increased respiratory rate

staggered walking

death after first symptoms

CHRONIC SYMPTOMS:

dizziness, increased urinary excretion, diarrhea,

growth rate and decreased milk yield

In poisoned animals the blood gets chocolate brown.

- Adult animals can tolerate a maximum of 200 g of nitrate per day.

Taking more than 100 g / day has a detrimental effect.

Poisoning occurs as a result of consuming high levels of nitrate in a short time.

It is reported that high amounts of nitrate containing dry grass or silage are more dangerous than pasture grass. (This depends on the consumption of more feed by grazing).

Mycotoxicoses

- ❖ Poisoning of mold toxins in animals is caused by poisoning.
- ❖ During the storage of feeds containing large amounts of moisture ($> 15\%$), mold growth occurs.
- ❖ To prevent this, feeds can be treated with organic acids such as propionic acid and ammonia.

Mycotoxins and their effects

Penicillium species (all feeds)	Ochratoxin A Citrinin, Clavicipin Patulin, Tremortin, Rubratoxin A, B	Hepatotoxic, neurotoxic, nephrotoxic, carcinogenic and teratogenic effect, decrease in feed consumption, thirst, polyuria (excess urine), polydipsia (craving), cramps, abortion, high embryonal deaths, body temperature
Stachybotrys alternans (dry forage)	Stachybotrytoxin (Satratoxin)	Drooling, swelling of the lips, stomatitis, gastroenteritis, diarrhea, leukopenia (leukocyte reduction), rumen atony
Sporidesmium bacteri (in kolzada)	Sporidesmin A, B, C	Stomatitis, rhinitis, faringitis, gastroenteritis, disorders of the central nervous system, hepatotoxic
Pithomyces chartarum (in herbs and leguminoses)	Sporidesmin A, B, C	BW loss, icterus, photosensitivity, dermatitis

There is no toxin in the dishwashing feed with mushrooms.

- On the other hand, fungus is not always observed in feeds containing mycotoxins.
- The most severe poisoning results from aflatoxins produced by *Aspergillus flavus*.

- Mushroom growth is very fast in humid environments. Mushrooms such as *Aspergillus*, *Penicillium*, *Fusarium*, *Stachybotrys* and *Sporotrichum* can grow rapidly in silage.
- The *Mucor* species is also observed in the wet silage.
- This is a danger when the feeds to the silo are not pressed too much.
- For this reason, silage DM should be increased to at least 35% with dry feed.
- If the amount of aflatoxin in feed dry matter is above 0.05 ppm, it is considered to be mycotoxin.
- Feeds exceeding 2 ppm are not given to animals.