



Foodstuffs toxic to animals

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Cacao products



- By products used in animal feeds since 19th cent.
- Intoxications frequent after world wars
- Numerous reports of intoxications on dogs
 - Food, but also cacao bean mulch
- Positive doping tests in horses and dogs

Cacao products



- Toxic principle:
 - Theobromine & caffeine:
 - ↑ intracellular cAMP, Ca → ↑ contractility
 - Block adenosine receptors → excitation
 - Lethal dose theobromine (dog): 100-250 mg/kg BW, symptoms already after 20 mg/kg BW
 - Lethal dose caffeine (dog): 110-200 mg/kg BW

Cacao products



- Symptoms:
 - Vomiting, diarrhoea, excitation, ataxia, seizures, polyuria, tachypnoea, dyspnoea, tachycardia, hypertension, elevated body temperature; death due to cardiac failure or apnoea
- Treatment:
 - Gastric lavage, emetics, laxatives, activated charcoal, fluid therapy, diazepam

Onions & Garlic



- Damage of erythrocytes after onion feeding known since 1930
- Numerous cases in dogs
- Also in cats: onions in baby feed
- Experimental proof
- Genus *Allium*

Onions & Garlic



- Toxic principle:
 - Formation of methaemoglobin by organosulphur compounds → Heinz bodies, haemolysis
- Symptoms:
 - Weakness, diarrhoea, vomitus, anaemia (Pale mucous membranes, haemoglobinuria, tachycardia, tachypnoea, weak pulse)
 - Heinz bodies, eccentrocytosis
- Therapy:
 - Decontamination of GI tract, blood transfusion

Grapes & Raisins



- Several cases of renal failure in dogs after ingestion of grapes, raisins or pomace
- Mortality 50 - 75 %
- Toxic principle unknown
- No predisposition of race, age or gender
- Susceptibility varies individually?

Grapes & Raisins



- Symptoms:
 - Vomitus, diarrhoea, lethargy
 - Renal failure (oliguria, anuria, hyperphosphataemia, hyperkalaemia, high urea and crea)
- Therapy:
 - Decontamination of GI tract
 - Aggressive fluid therapy, enhancement of diuresis
 - Peritoneal dialysis

Avocado



- Leaves or whole plants fed to farm animals/animals browsing in plantations
 - Sterile mastitis in cows, goats, rabbits
 - Deaths in birds, fishes due to heart failure
- Toxic principle:
 - Persin causes necrosis in mammary epithelium and myocardium
 - Birds most susceptible
 - Difference in toxicity between varieties

Avocado



- Symptoms:
 - Weakness, dyspnoea, tachypnoe, tachycardia, oedemas
 - Decrease in milk yield, elevated cell count, oedema of the udder
- Therapy:
 - Symptomatic
 - Permanent damages possible

Macadamia nuts



- Several cases reported in US
- One case at VUW 2006
- Symptoms:
 - vomitus, elevated body temperature, ataxia, weakness in the hind limbs
- Toxic principle:
 - Unknown
- Therapy:
 - Not necessary

Hops



- Malign hyperthermia in greyhounds?
- Toxic principle:
 - Unknown
- Therapy:
 - Decontamination of GI tract, cooling, dantrolen?

Salt



- Failure in mixing
- Defect in water supply
- Intake of sea water
- Play dough
- Salt as emetic
- Symptoms:
 - Weakness, vomitus, diarrhoea, polydipsia, polyuria, tachycardia, tachypnoe, coughing, dyspnoea, hyperthermia, ataxia, seizures

Salt



- Toxic principle:
 - \uparrow intracellular osmotic pressure \rightarrow hypervolaemia \rightarrow oedemas
 - Ulcers in the GI tract
 - minimal toxic dose: 2 mg/kg BW, minimal lethal dose 4 mg/kg BW
- Diagnosis:
 - Hyponatraemia without dehydration
- Therapy:
 - Elimination of Na: diuretics
 - Seizures: diazepam

Xylitol

- Sugar alcohol (pentapentol)
- Occurs naturally in many fruits and trees
- Sugar substitute
- In tooth pastes, sweets, chewing gums
- Hypoglycaemia in dogs
- Liver failure
- Dose: 0.15 - 16 g Xylit/kg BM

- Stones of *Prunus* (apples, apricots, peaches, plums, cherries)
- Raw maniok
- Yeast dough
- Raw beans
- Raw fish
- Raw eggs
- Lactose

- Farm animals \downarrow
- Pet animals \uparrow
- Communication
- Sources
 - Animal Poison Control Center of the American Society for the Prevention of Cruelty to Animals® - USA
 - Veterinary Poison Information Service - UK
 - Animal Antipoison Center - France