

ENVIRONMENTAL AND LAND BASED SCIENCE

B 494 - CARE OF ANIMALS

ANIMALS CAN BE KEPT FOR:

Pets e.g. DOG

Food e.g. RABBIT

Research e.g. RATS

Competition e.g. SHOW DOGS

Conservation e.g. PANDA

Hunting e.g. BIRD DOGS (Labrador)

- Animals are treated differently for different purposes:- space (restricted for research), exercise (dog run for a pet), security (guard dogs in enclosure).
- When keeping animals it is important to consider animal interaction between people and other animals.

INTERACTION WITH PEOPLE AND OTHER ANIMALS

PETS: exercise dogs so that they do not become bored and bark excessively.

- De-sex cats so that they do not breed with other pets.
- Confine animals that may bite.

RESEARCH: quarantine animals that could be a possible hazard to the public.

CONSERVATION: keep animals away from the public to maintain a more natural environment.

FARMED FOR FOOD: keep animals from pets or wild species to avoid transmission of disease.

BREEDING

Different breeds have different characteristics. These characteristics may be useful for breeding purposes:

breed	characteristic
Dwarf rabbit	Small <u>size</u> 1.75 – 3.5 lbs.
English Lop	Weigh from 8 -12 lbs. good feed: meat conversion ratio.
Labrador	Calm <u>temperament</u> (guide dog)
Andalusian hen	Large eggs and high production

CROSS BREEDING V LINE BREEDING

Cross breeding – mating different breeds (HYBRID VIGOUR)

Line breeding – mating closely related within a breed (keep characteristics)

characteristic	Cross breeding	Line breeding
Fast runner eg greyhound		Breed from line of race winners
Hardy, tough	Cross bred dogs (hybrid vigour)	

TECHNIQUES FOR SELECTING ANIMALS

- Performance e.g. breed with fastest runner or best egg layer (however, these traits may not always be passed on to offspring i.e. inherited).
- Heritability e.g. Select animals who have produced good performing offspring e.g. use a dog that has produced many race winners or a cock that has produced good egg laying hens.

SELECTIVE BREEDING SHOWING HENS

eg winedots

Hens need to have the following traits:

- Wide pelvic bones (laying eggs).
- Deep breast and back side.
- Shiny clean coat of feathers.
- No skin blemishes.
- Characteristic feather pattern.
- Strong straight yellow legs.
- Clean well formed beak.
- Clear healthy reddish bay eyes.
- Round short head.
- Rose comb.
- Bright red ear lobes.



To produce a show hen, breeders choose a cock and hen that:

- Have the characteristics that the judges are looking for (show winning hens are valuable to breeders).
- Have produced offspring that show the characteristics.

* Possible problem: if a breeder regularly ***inbreeds*** winning birds to keep the winning look then offspring may develop genetic mutations like bent legs, damaged joints.

FEED

Animals need:

- a balanced diet to grow normally.
- energy in the form of carbohydrates and fats.
- fibre for a healthy digestive system.
- protein for growth and body chemicals.
- vitamins for body functions eg A and D.
- minerals such as Ca (bone strength) and Fe (oxygen transport in red blood cells).
- water for transport and most cellular processes.

EFFECTS OF A POOR DIET

Deficiency -too little of a particular nutrient.
 -may lead to nutritional diseases.

Symptoms - Depending on which nutrient is missing, animals may show nervous disorders, blindness, muscle waste, scours (runny faeces).

VITAMINS

- Vitamins may provide an effective resistance to deficiency disease.
- They can be obtained naturally in plants and meat.
- Vitamin B and C are associated with cellular respiration.
- Vitamin A is associated with growth, good vision and resistance to disease.
- Vitamin D is associated with bone formation.

TYPES OF FEEDS

	Roughage	succulent	concentrate
Differences or description	High fibre	Plant with high moisture	Processed feeds High nutrient
example	Straw hay	Cut pasture Milk thistle	Pellets Crushed grain

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FEEDING A RATION or AD. LIB?

	ration	Ad lib
advantages	Less waste More control of diet	Allows animal to satisfy own needs
disadvantages	No allowance for variables such as high energy use	May become too fat/ high faeces production

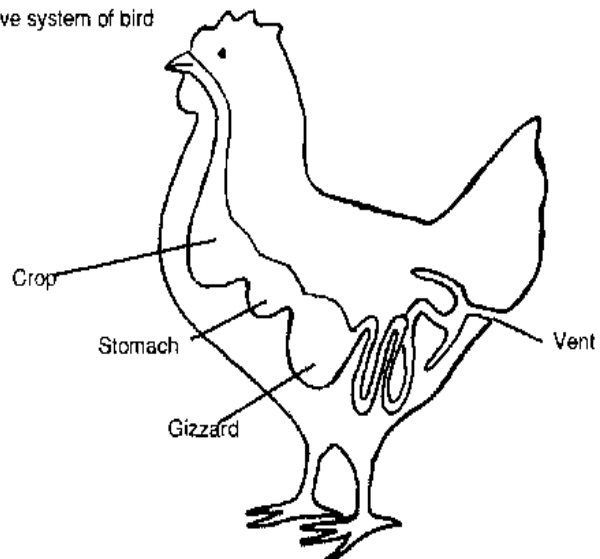
DIGESTIVE SYSTEMS

RUMANENT/ NON RUMINENT	BIRD
Mouth – tearing, grinding, lubricating, digesting starch	Beak- swallow food whole Crop – food is mixed with saliva
Omasum – food is ground up	Gizzard – grind up food
Abomasum/ stomach	Stomach – food is mixed with digestive juices
Rumen – microbes digest cellulose	Caecum– microbes digest cellulose
Reticulum – absorb water	
Small intestine - absorb nutrients into the blood stream	Small intestine - absorb nutrients into the blood stream
Large intestine – absorb water	Large intestine - absorb water
Rectum – store faeces	
anus	Vent - Release undigested food

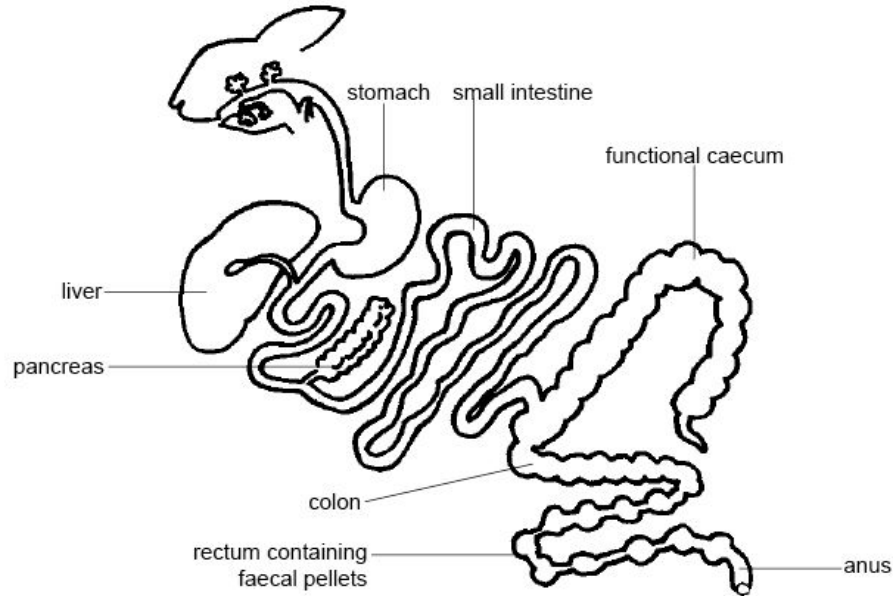
DIGESTIVE SYSTEM OF A BIRD

- Food is swallowed whole.
- crop - food is mixed with saliva.
- stomach - the food is mixed with digestive juices.
- gizzard - the food is ground up by small stones that the bird has eaten.
- Small intestine – food is absorbed into the blood stream.

Digestive system of bird



DIGESTIVE SYSTEM OF A RABBIT



Mouth -Food is chewed and mixed with saliva.

Stomach – digestion in acid.

Small intestine – some food is digested and absorbed into the blood stream.

Caecum – cellulose (roughage) is broken down by microbes (rabbits eat their faeces so that this can be digested twice).

Colon – water is absorbed.

Rectum – hold dry pellets (faeces).

Anus – faeces is expelled.

ENZYMES

- are proteins.
- Speed up break down of large food molecules.
- into small soluble molecules.
- These can be absorbed into the blood.

HOW MICROBES HELP

- Microbes in the caecum can digest cellulose.
- They break it down into simple sugars.
- When the microbes die the sugars can be released into the digestive system.

HOUSING



Birds- cage, aviary, coop.



Fish- bowl, tank, aquarium, pond.



- Small mammals – cage



Reptiles- tank.

Characteristics of good small mammal housing: – dry, adequate ventilation, draught free, suitable temperature.

LOOKING AFTER SMALL ANIMALS

animal	Feeding/ cleaning	Health care
Birds	Change feed tray and water every day.	Dusting every year for lice, feet paring .
Fish	Add fish food daily (not too much as this will make the water dirty).	Maintain water pH.
reptiles	Clean water/ control temperature.	Soak shedding skin

REPRODUCTION

mammal	bird
Foetus is connected by a placenta	Foetus separated by a membrane.
Gets nutrition from the mother.	Get nutrition from the egg.
Born at an advanced stage.	Less developed when born.
Longer gestation period.	Intensive care by parent.
New born feed on milk.	New born feed on plant products.

REPRODUCTIVE CYCLE

CHICKEN

- Females have 1 ovary/ males produce sperm.
- Eggs are fertilized in the upper part of the oviduct.
- As the fertilized egg passes down the oviduct, egg white, a membrane and shell cover the ovary (yolk).
- Eggs are incubated in a nest and the chick is relatively well developed when it hatches so that it can fend for itself.

DOG

- Several eggs are produced in the ovary and are fertilized by sperm.
- The fertilized eggs travel down the fallopian tube and are implanted in the uterus.
- The foetus feeds from the mother until it is well developed.
- When the animal is born it feeds on the mother's milk.

CARING FOR PREGNANT AND YOUNG ANIMALS

	HOUSING	DIET	HEALTH
PREGNANT MAMMALS	-Good ventilation. -Fresh, warm, clean bedding.	-Water. -High energy. -High protein. -Calcium.	-Monitoring. -Avoid excess handling.
YOUNG MAMMALS	-Room for exercise.	-High energy -High protein	-Vaccination. -Parasite medication.
YOUNG BIRDS	-Perch. -Room for exercise. -Usual needs.	-Grit. -High energy. -High protein.	-Lousing. -Paring feet.

RISK ASSESSMENT

Risk	Control
Behaviour (biting).	Hold correctly or muzzle.
Carrying equipment.	No sharp or broken parts.
Disease (tetanus, salmonella).	Vaccinate, buy food from a proven supplier and store well.
Parasites.	Treat regularly.

For a rabbit:- Place your hand around the body and use your fingers to restrain the head if the animal is new or prone to biting.

The only disease that a rabbit can pass on to humans is ringworm. Take care to examine the rabbit regularly for signs of the parasite (loss of hair in a circle with a small red ring in the middle) on the skin and treat if found.

USE OF ICT

Maintain records for efficient animal care by:

- Recording daily rations/ supplements.
- Noting health problems observed.
- Recording health treatments such as vaccinations, parasite control, vet. treatments..
- Breeding records.

Control conditions:

- Environmental regulation eg temperature.
- Automatic water and feeding.

WHY KEEP A SMALL ANIMAL HEALTHY?

1. Society expects that all animals should be treated humanely.
2. A healthy animal lives for longer and produces better.

HANDLING

- Animals need to be handled correctly to reduce stress and avoid damage.
- Different animals have different requirements.
- Small animals are usually transported in containers that are well ventilated, warm and comfortable, small enough to contain the animal from damage if bumped around but large enough to provide freedom of movement.

DISEASE AND HEALTH

The main causes of ill health in animals are:

- Bacterial diseases eg salmonella.
- Viral diseases eg bird flu.
- Fungal diseases eg.
- Parasites eg intestinal worms.

Signs: loss of condition, evidence of parasites (eg fleas, ticks), evidence of disease (eg swollen glands).

DISEASE TREATMENT

Eg Rabbit

problem	treatment
Weepy eye	Open duct (vet) add Neomycin drops.
Vent disease	3 injections of Dura pen sub Q.
snuffles	No medicines/ improve ventilation/ antibiotic to reduce secondary infection/ reduce stress.
diarrhoea	High fibre low energy diet (remove pellets for 24 hrs/ reduce stress.

SIGNS OF ILL HEALTH IN SMALL ANIMALS

- clean coat.
- lick marks on the coat.
- bright eyes.
- moves freely.
- breathes normally.
- takes an interest in what is happening around it – alert.
- has a moist nose (muzzle).
- has a clean not “runny nose”.
- does not make strange sounds.
- has a good appetite.
- droppings are the normal colour and consistency.

ROUTINE HEALTH CARE OF A RABBIT

- Feed a standard mix/ pellets every morning and evening.
- Make fresh fruit and or vegetables available every day.
- A plentiful supply of fresh hay should be available every day.
- Fresh water should always be available.
- Remove the rabbit and clean out the cage every week.
- Replace fresh shavings and hay every week.
- Handle the rabbit regularly (every day if possible).
- While handling the rabbit, check for signs of ill health.
- Vaccinate against VHD and myxomatosis at 6 months than every year.