

Diet schedule of selected captive species

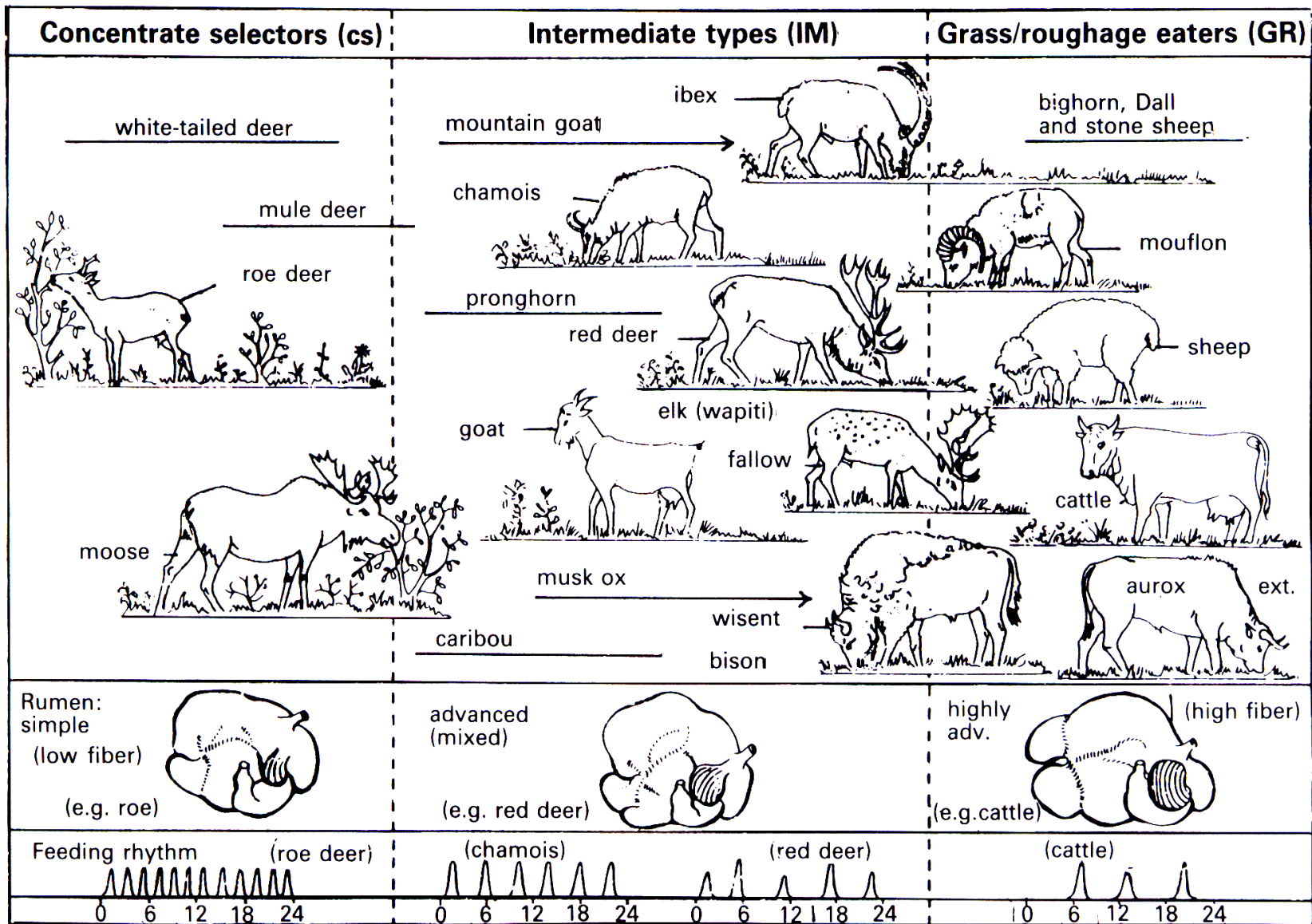
ANN-607, 05.11.2020

Course Title: Nutrition of Companion, Laboratory, Wild and Zoo animals



Dr. Sanjay Kumar
Assistant Professor
Department of Animal Nutrition
BVC, Patna
Unit-4

- Nutrition can affect productivity of *Cervus elephus* by influencing the timing of estrus and birth date, probability of conception, fetal growth and survival, birth weight, resistance to disease and parasites, juvenile growth and survival, age at first reproduction, and adult survival [Cook, 2002].
- Deep snow in winter can reduce *Cervus elephus* nutrition by reducing access to food. Because of their small body size and low fat reserves, malnourished calves may have high winter mortality. [Raedeke et al., 2002 Peek, 2003).



Nutrient requirements for Cervus elaphus

- Maintenance requirement is 203 Kcal ME / kg BW^{0.75}/d (NRC, 2007)

Nutrient	Requirement	Nutrient	Requirement
DMI	2-3.5% BW	Fe	27-45 ppm
CP	16-18 %	Zn	10-30 ppm
Ca	0.15-0.74%	Cu	6-9 ppm
P	0.26-0.41%	Mn	18-36 ppm
Mg	0.09-0.18%	Se	0.07-0.18 ppm
K	1.2-1.8%	I	0.09-0.12 ppm
Na	0.10-0.44%	Co	0.1 ppm

Effect of plane of nutrition on performance of *Cervus elephus*

Ration	CP ^a	DE ^b	Primary ingredients
High-quality pellets	15.9	15.32	Oats, wheat, alfalfa hay
Low-quality pellets	14.2	9.42	Ryegrass screenings, straw, alfalfa hay
High-quality hay	17.4	11.14	Alfalfa
Medium-quality hay	8.3	10.55	Orchard grass, alfalfa
Low-quality hay	7.8	9.55	Fescue and mixed meadow grasses

More of the females in the high- and medium-nutrition treatments bred than in the low-nutrition treatment

Date of breeding varied among cows subjected to different treatments. Females fed a moderate-quality diet bred later, on average (7 October \pm 1.46 days; mean \pm SE), than females fed a high-quality diet (29 September \pm 1.54 days).

The single pregnant female fed a low-quality diet bred on 27 October.

(Cook et al., 2001)

Musk deer

- Musk deer are concentrate selectors known to consume over 130 species of plants. They also consume a few mosses and lichens. In winter season,
- Musk deer eat mainly arboreal lichens and some terrestrial bushy lichens. They also consume young shoots, coniferous needles, leaves, buds, bark of mountain ash, aspens, maple, willow, bird cherry, and honeysuckle.
- In summers, herbaceous plants, including buckwheat, geranium, some grasses, and spirea, form a major portion of their diet. Diet contained high proportions of forbs and woody plant leaves, particularly temperate evergreen oak (*Quercus semecarpifolia*) and gaultheria (*Gaultheria nummularioides*), in autumn and winter and of forbs and lichens in spring and summer.

(Green, 1987)

Nutrient requirements for musk deer

- Maintenance requirement is 203 Kcal ME / kg BW^{0.75}/d (NRC, 2007)

Nutrient	Requirement	Nutrient	Requirement
DMI	3-4%% BW	Fe	27-45 ppm
CP	18-20%	Zn	10-30 ppm
Ca	0.15-0.74%	Cu	6-9 ppm
P	0.26-0.41%	Mn	18-36 ppm
Mg	0.09-0.18%	Se	0.07=0.18 ppm
K	1.2-1.8%	I	0.09-0.12 ppm
Na	0.10-0.44%	Co	0.1 ppm

- High nutrition level could promote quantity and quality of musk secretion for breeding forest musk deer. In the compound feed test period, musk secretion reached 13.475 g/ind., increased 319.78% on previous production (Jun et al., 1998).
- Artificial food mix consisting of flour, wheat bran and seasonal vegetables are fed twice a day at dawn and dusk. Diet mainly comprised of fresh leaves (in summer and autumn) or dried leaves (in winter and spring) which were collected from the natural habitats of wild musk deer, and supplementary artificial food (mainly consisting of flour, wheat bran and some vegetables in season). The amount of food provided was held constant and water *ad libitum* was also provided. (Meng 2012)

(Meng et al., 2002)