Nutritional Wisdom

The concept of nutritional wisdom refers to the natural selection and regulation of dietary elements by the animals, themselves. Such behavior has been demonstrated in many species. This wisdom, under ideal farming conditions (i.e. where there is a diversity of plants in the pasture and nutrient components in the feed), has generally worked well. Problems began with overstocking. Animals that are overcrowded are forced to overgraze and tend to use areas where the pasture is contaminated with feces and, therefore, parasites. More problems occurred when the diversity of choice of nutrients was lowered because weeds were destroyed and high-yield grasses and other plants seeded. Metabolic and nutritional deficiency disorders, such as milk fever, grass staggers and bloat, increased, especially in more susceptible high-yield cattle. With lack of diversity in grass selection, the animal could not self-regulate and correct for certain dietary needs. Highly palatable seeded plants, such as clover, occurring in an artificially imbalanced over-abundance, lead to problems such as bloat, photosensitivity, laminitis and scours. Thus, overcrowding and the introduction of certain plants to increase productivity may have helped disrupt the animals’ inborn nutritional wisdom.

More recently, with the advent of confinement farming, the animal is wholly dependent upon man for its nutritional needs. Feeds are compounded from various natural and unnatural (by-product) sources and are fed to the animals who have no choice as to what they eat.

The science of nutrition, with analyses of parts per million of each essential nutrient, is far from being a reliable tool for optimal, scientific formulation and regulation of the confined animal’s diet. There are still many unknowns, and claims that a particular formulated ration is perfectly balanced and contains all essential nutrients are not always true. For example, the standard nutritional requirement for phosphorous in poultry may be too low, making the birds susceptible to heat stress. Nutritional deficiencies and the stresses of such factors as lack of roughage, high percentage of protein concentrates, and the physical form of the feed (loose and dry rather than pelletized) can increase the animals’ susceptibility to disease and social and other stressors.

Biotin deficiency in a pig’s diet can aggravate foot problems, especially on rough concrete. It may also contribute to cannibalism. Excessive use of antibiotics (designed to stimulate growth and prevent disease) in feed for pigs may be the reason why many pigs must now be given vitamin K in the diet to prevent mortalities from a bleeding disorder linked with this vitamin K deficiency. It is suspected that the gut bacteria that normally synthesize vitamin K have been destroyed by prolonged and excessive use of antibiotics in the feed.

Apropos of feeding regimens, veal calves are often fed a synthetic formula deficient in iron and roughage. This is done to produce pale meat which fetches a better price than the darker product. When cooked, red veal looks and tastes like white veal, so these practices are pointless and should be prohibited.