



Creating the Nation's first BioPark

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Letter from the Desk of David Challinor
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It is a big job to think up daily menus for a family, and an even bigger one to do so for a school, a restaurant, or an army regiment. Included in these large, difficult-to-feed institutions are zoos, where every day several thousand valuable tenants must be fed highly specialized diets.

The food served to zoo animals must be carefully selected because it is frequently impossible, or at best very impractical, to provide what they would normally eat in the wild. Therefore, to ensure a healthy breeding zoo population, we must know as accurately as possible what each animal naturally eats. Then we can determine what food is available in commercial markets and can provide the nutritional equivalent of the food eaten in the wild. For example, red plumaged birds such as scarlet ibis and flamingo eat certain invertebrates that are high in carotenoids (a deep red pigment). When deprived of these specific invertebrates, the birds soon turn pale pink and even white. About 20 years ago, zoos discovered they could maintain the birds' bright red plumage by lacing their food with carotenoids from vegetable oils.

Other animals, such as anteaters and pangolins, are fed a meat-based gruel which they slurp up with their long, sticky tongues. Several years ago, the keepers laced the gruel with formic acid in the belief that this "ant flavor" would be more palatable. Formic acid, however, is messy and even dangerous to handle, and since the anteaters seemed to thrive on the gruel without formic acid, the keepers ceased trying to add flavor.

One of the trickier problems for zoos is feeding carnivores (flesh eaters) whose stimulus to eat is triggered by motion, or in other words, moving prey. We have generally solved this problem by using crickets. In the early 1960's, the Zoo raised its own crickets which were released in the animal areas for the squirrels, shrews and birds to catch. Being rich in protein and relatively easy to raise, crickets and meal worms are very popular zoo feed. In fact today there are several large commercial establishments which raise crickets and meal worms for anglers, bird fanciers, and zoos throughout the country. For example, the National Zoo's animals consume 42,000 crickets per week and 120 lbs. of meal worms per month.



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Fish also need special diets. Today it is cheaper to buy from wholesalers various kinds of earthworms and even guppies to feed the cuttlefish.

The public does not seem to mind that invertebrates and fish are fed alive to other animals, but as a matter of policy, we do not feed live mammals to the carnivores. Rats and mice are obtained from the surplus stock of research laboratories where they are humanely killed and sent frozen to the Zoo. Laboratories are an ideal source for zoo food because we know that the rats and mice are free of contaminants.

The pandas' need for bulk bamboo has been met by sending the zoo truck to the outer Washington suburbs where, by a word of mouth network, we have established a cutting sequence on private properties with spreading bamboo hedges. Several of the bamboo species eaten by pandas in China grow around Washington, and by avoiding the bamboo grown in the traffic-dense area around the Zoo, we use suburban bamboo whose lead content is much lower and safe enough to be eaten by the pandas.

Commercial supplies now dominate much of the zoo food market, and ready-mixed monkey chow, small mammal biscuits and other specialized food are readily available. Volunteer gardeners grow kale and other leafy vegetables on plots located at the edge of the Zoo, and virtually all the hay comes from the Zoo's Conservation and Research Center at Front Royal in Virginia, where we even have a surplus to sell to other local zoos.

The next time you watch a panda eating a carrot or an elephant eating hay and cabbage heads, you can understand the elaborate commissary effort behind their food delivery. We have been blessed with a healthy collection of birds, mammals and reptiles, but only because of the unremitting effort of the Zoo's staff of keepers, curators and nutritionists who keep abreast of the best zoo diets.