

Raptor Digestion Facts

For birds that have a crop, food passes to the crop to soften or to just be stored temporarily. From there food goes to the stomachs.

Owls do not have crops, all other raptors do.

Food is stored in the crop on the way down, but not on the way up.

Birds have two stomachs (in this order):

A glandular stomach (the proventriculus) which digests food chemically

A muscular stomach or gizzard (the ventriculus) that grinds food with the aid of grit.

In many carnivorous species – hawks, for example, their glandular stomach is so highly acidic, it dissolves bones. The bearded vulture of Europe and China is said to have a stomach so acidic it can dissolve the whole of a cow's vertebra in one or two days.

Pellets are formed in the gizzard.

A given bird's pellet will be the size and shape of their gizzard.

The gizzard of birds serves the same function as the teeth and strong jaws of mammals.

The gizzard is most developed in birds that eat plant parts.

Birds intentionally ingest grit to be kept in their gizzard to help grind food. They can prevent this grit from passing through the digestive system with the food, and remain in the gizzard.

Birds prefer brightly colored grit. Such examples of grit found in birds include: quartz, granite, ruby, gold, fruit pits, coal, ground oyster shells, black lava, and lead shot from shotguns (this of course causes lead poisoning, which we do see a lot of at Willowbrook).

Many other birds cough-up pellets, especially those which feed much on insects. Examples include: gulls, terns, herons, swifts, goatsuckers, grouse, grebes, cormorants, rails, crows, jays, starling, raven, thrushes, snipe, sandpiper, killdeer, warblers, and many other songbirds.

Owls cannot digest bones, therefore their pellets usually contain bones, whereas other raptor pellets usually do not.

When the pellet is completely formed in the gizzard it passes up into the glandular stomach where it is held until the bird receives stimulus for ejection (seeing potential prey can be such a stimuli, since a raptor must cast a pellet before it eats its next meal.)

Birds with crops fill both the crop and the stomach with food about twice a day; insect-eating birds, an average of five to six times daily.

Bird digestion can take anywhere from 12 minutes to 2 days (depending on what and how much they ate), but a medium to large sized raptor that ate non-processed food, would take approximately 9-16 to cast a pellet.

After the liquid digestible food (*chyme*) exits the gizzard, it enters the small intestine where absorption takes place. Next, it enters the large intestine where water is extracted, and lastly all waste (both liquid and solid) exits simultaneously through the cloaca.

References:

The Audubon Society Encyclopedia of North American Birds, John K. Terres

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