OCTOBER
By Ken Solomon

"October Food"

During September and October, the pheasant's food intake increases for both hens and roosters. The types of food they consume also change. Pheasant food habits show a rapid increase in corn consumed, while the intake of oats, barley, and wheat continues the decline started last July. This change is due mainly to the availability of each food. The small grains were harvested in July and August, and were a major part of the bird's diet at that time. But soil tillage, and the sprouting and rotting of this grain has decreased the amount available in October. Corn harvest though begins in late September, and makes waste corn now available to the birds. This change is good for pheasants. They need more energy to improve their body condition for winter, and corn does have more metabolizable energy (3,430 kcal/kg) than wheat (2,800), oats (2,500), or barley (2,640).

"Protein Intake"

Protein digestion supplies the amino acids necessary for pheasants to build and maintain good body condition. While corn is a major part of the October diet, it is only 8.8% protein. The wheat eaten last August was 14.1% protein. With the diet shift from small grains in August to corn in September and October, the pheasant must make up for the decrease in protein intake. During October, though, pheasants consume more weed seeds than at any other time of the year (mainly because there are more weed seeds available at this time). Fortunately, certain weed seeds contain more protein and fat than commercial cereals. South Dakota and Nebraska found sunflowers and foxtail to be the most eaten seeds. With the protein content of sunflowers being a high 45.5 percent (2,320kcal/kg), the pheasant can get the protein needed for body repair. The wild sunflowers which were in the roadsides last June, but were mowed or sprayed in July, could have helped your pheasants get ready for this winter.

"Thermoneutral zone"

Because daily temperatures are decreasing, one might think that the additional food consumed in October would be used to keep the bird warm. Not yet! It goes to fat production. This is because outdoor temperatures around 40 degrees F. are still within the pheasant's "thermoneutral zone." Thermoneutral means a range of temperatures in which the bird does not need to consume more or less energy in order to survive. The exact zones for pheasants are unknown, but let us say it is 40 to 104 degrees. As temperatures fall to 40 degrees, the pheasant can keep warm without increasing its energy intake. It simply ruffles its feathers or roosts in protective cover...much like you would wear a sweater or stay out of the wind to keep warm. Remember that the pheasant has no more feathers now then it had last spring. So at a temperature below 40 degrees, the bird must start consuming more energy to stay warm. Last August, when temperatures hit 104 degrees (upper limit of the thermoneutral zone), the pheasant increased it energy intake to keep cool. His air-conditioning though proved very dangerous.

"Fat Hens"

During September and October, the pheasant's food intake increases for both hens and roosters. Most of the increase goes to the production of fat. Fat reserves are located along the breast muscles and around the internal organs (visceral fat). The hen's breast fat increases from 0.3 grams to 6.0 grams from September to October. The amount of visceral fat also increases dramatically. This 20 fold increase in fat in less than two months shows the urgency with which the hen must prepare for winter. The 0.3 grams in September was the hen's lowest fat weight of the entire year. Therefore, October is the first month the hen has actually gained any weight since last April. Motherhood was tough!

"October Chicks"

The chicks finally reach adult size and weight in October. While the same size, they must consume more energy than their parents, because the chicks are still molting their feathers. As the hunting season opens, most young roosters have replaced all their brown body feathers with the adult-colored feathers. However, close examination of the chick's three outermost flight feathers (the long feathers on the wings) show that they are still growing (blue, blood filled shafts). Remember that the adult rooster finished his molt last July, so in October his flight feathers are not growing. This is one way of telling if you harvested a tender young bird or a tough old bird. The length of the young rooster's outer three feathers can also tell you how old (in weeks) the bird is, when it hatched, and when incubation started. State game agencies use a wing gauge to translate flight feather length into bird age.

"Hunter Bag Check"

State game agencies collect data through the year to monitor the pheasant population - spring crowing counts, summer brood counts, and winter sex ratio counts. You, the hunter, also collect pheasant data. October is pheasant hunting, and most states conduct their "hunter bag checks" during the first week of the season. Besides assuring that you are not taking more than a legal limit, game officers and biologists also age your birds. By aging your roosters, they can figure the dates of last spring's peak hatch, and determine the ratio of young to old roosters.

Knowing the dates of the peak pheasant hatch, the state learns more about the effects of spring weather on hatching. How long did the early ice storm delay nesting? Did late May's two-week rain drown the nests or simply delay the starting of nests? When a nest hatches often determines how well that hen and her chicks will survive next winter. From the roosters' young-to-old-ratio, the state can calculate how many of the spring chicks survived to hunting season. It also allows evaluation of productivity. If the ratio is higher this year than last year, more chicks were produced this year than last.

"Age of That Rooster"

You shot your limit of roosters today. Are they young birds or old? Will they be tender to the fork, or pressure cooker tough? Like state biologists, you too may want to age your roosters. October roosters may be aged by examining their wings feathers. Stretch a wing outward from the bird's body. See the 10 inner, and the 10 outer most flight feathers? The outer feathers are called "primaries", and they tell the bird's age. Primaries are molted (replaced) in an orderly and timely manner. First, the inner most (shortest) primary, number 1, drops out. When the new feather growing in 1's spot is half grown, number 2 drops out. When number 1 is 3/4 grown, 2 is 1/2 grown, and 3 drops out. This sequence proceeds through all 10 primaries. During the first week of the hunting season, most young roosters are working on 8, 9, and 10. If you get a wing gauge from your state game agency, it will use the length of the outer most growing primary to tell you the week the rooster hatched last spring. If 8, 9 and 10 are fully grown, then that bird is over one year old, and may need the pressure cooker. There is no way to tell a one year bird from a two or three year bird.

"Effect of Hunting"

State regulations, which set your pheasant season, hope to accomplish two goals. The first is to provide the public with the maximum amount of recreation without harming the bird population. This is done through examining brood survey data, winter sex ratio data, effects of hunter pressure, and effects of season length. Seasons currently range from 9 to over 65 days. Through this year's pheasant surveys, states know the population size. To estimate hunter pressure, the state relies on past hunter trends. Past information shows the effect of bird numbers, bag limits, season lengths, cost of licenses, and even weather on hunter turn out.

The second goal is to cull the roosters to a level where they will not compete with hens for winter feed, and where they will not compete among themselves during the breeding season. During cold, snowy conditions when food is scarce, roosters will chase hens away from good feeding areas. When roosters are setting up their spring breeding territories, too many roosters means they will spend more time fighting each other than courting hens.

"Hunting Season Length"

It seems the public and state are always at odds when determining the pheasant season length. The public is more conservative. When bird numbers are low, the public wants no season, while the state a short season. Closing the season does not allow birds to be stock piled, nor expand their distribution. The population changes in non-hunted South Dakota counties were similar to those in adjacent hunted counties. Population trends between adjacent Minnesota (hunted) and Iowa (not hunted) counties were similar. Like a corn crop, the roosters can be harvested even when the overall crop is small.

When birds are high, the state wants to extend the season while the pubic says "No way!" Extending the season a week or two has little effect on the number of birds harvested.

More will be harvested, but the number is small compared to the season's start. Harvest information shows that 70 to 90 percent of all the roosters harvested, are shot the first 9 days of the season. The number of hunters decreases through the season. So extending the season gives those few hunters additional recreational opportunity while removing only a few more birds from the pheasant population.

"Time of Death?"

You are hunting, and find a dead rooster that was shot. When did it die? Estimating the time of death is an important law enforcement tool for state game agencies, and can be used by you. Time is determined by appearance of 1) the pheasant's eyes, 2) rigor-mortis, and 3) body temperature. First....eyes. The kill day, eyes remain normal except for a hazy film, giving the pupil a light purple color (usually shiny black). By day two, the eyes are opaque and depressed. Using the eyes works well if outdoor temperatures are 40-70^{o}F. Second....rigor-mortis. Within one to two hours after death, the wing and leg muscles are stiff. They remain rigid through the day of death, but are flexible again the second day. This works best when outdoor temperatures are 50-70^{o}F. Third....body temperature. Abdominal cavity temperature is taken through the cloaca. On an 80^{o}F day, the pheasant is 103^{o}F one hour after death, and 81^{o}F at 16 hours. On a 20^{o}F day, the bird is 97^{o}F at 1 hour, and 26^{o}F at 16 hours. The rate of heat loss is effected by whether the bird was molting, gutted at death, plucked, or setting in a warm vehicle.

"Rooster Age"

You just shot your first fall rooster. Let's discuss two unproven aging methods, and then next time consider what really works. 1) Breast Cartilage - My Grandfather had his own, not so scientific, method of aging roosters. When dividing the birds with hunting companions, he would feel the cartilage at the tip of the breast bone. If the cartilage was stiff... "One for you."... If soft and pliable... "One for me." Funny, Grandpa's birds were always tender. 2) Lower Jaw - This is accepted by some game mangers. Try holding the rooster only by the tip of its lower bill (thumb inside mouth, forefinger underneath bill tip). Now with the bird dangling below your hold, open the bird's mouth as wide as possible by turning the lower bill 90^{o} to the dangling body. On an old bird, the bill will support the weight. On a young bird, the bill will bend or may even break.