

## **DECEMBER**

### **By Ken Solomon**

#### **"Fat Hens"**

During the first of December, pheasant hens are continuing the weight gain they started last September. She has increased from a low of 861 grams (1.9 lbs) to 1094 grams (2.4 lbs). Imagine yourself increasing your body weight 27 percent in just two months. Although easy for some of us, most would find it difficult to do. But the hen has to do it so rapidly in order to survive the colder months to come. Most of the hen's gain is in fat not muscle. The amount of her breast fat tripled by mid November and will have increased six fold by mid December. Fat is the most convenient and efficient storage form of energy, because 1) it contains at least twice the caloric value of either carbohydrates or protein, 2) it takes less energy to convert food energy into fat, and 3) fat takes less energy to metabolize than muscle..

#### **"Short Winter Days"**

Even when food is not a winter problem, the amount of daylight is a problem. In September pheasants had more than 12 daylight hours to dine at leisure, while December provides only 9 hours. A 3 hour difference in winter may not seem like much, but it means consuming 20 percent more food in 25 percent less time, and surviving frigid nights that are 25 percent longer.

To consume the required energy in a shorter day, the pheasant must change its feeding behavior. During a summer sunrise, only 36 percent of the birds have had breakfast. In December, 88 percent have eaten by sunrise. Feeding in early winter is also more intense. The weight of the food in the bird's crop is 7.78 grams in the morning. This is 2.2 times more than on a summer morning (3.49). Their crop during a winter afternoon contains 2.7 times more food than during a summer afternoon. In summer 52 percent are feeding heavily at sunset, compared to 78 percent during a winter sunset. Time is precious in winter.

#### **"Long Cold Nights"**

Winter nights are a freezing 15 hours long, and it is certain the pheasant will be ravenous by breakfast time. The 10 grams of food in its crop at bedtime passed through the crop in four to five hours. When the crop is empty, the pheasant still has 10 hours of darkness until breakfast.

During these long nights, the availability of roosting habitat is extremely important to the pheasant. This habitat is the idle grassland or wetlands cover where birds spend their nights. The quality (thickness and height) of this habitat determines how much energy the birds need to stay warm ... in the same way that the quality of your windows and insulation determines how many cords of wood you will need to stay warm. Without

good roosting cover in which to spend their winter nights, the birds must use more fat to survive until breakfast. A couple weeks of cold, 15-hour nights without roosting will kill all pheasants.

### **"December Chicks"**

Food habits and feeding behavior during early winter are the same for both young and old birds. When the Christmas turkey is fat and juicy brown, and when your favorite fishing lake frozen enough to skate on, that young pheasant hatched in suntan weather last summer has reached its maximum weight. In fact, the young hen weighs 13 percent more than the adult hen. Perhaps nature is giving the young a better chance for winter survival.

Whereas the young pheasant equaled adult food intake in September (12 weeks old), equaled adult weight in early October (16 weeks), and equaled adult plumage in late October (20 weeks), they reach adult maturity in December (25 weeks). The growth of their heart, liver, lungs, thyroid, and kidneys continue into late December, when the young bird is finally an adult in every way an adult.

### **"Buggy Pheasants"**

When cleaning the pheasant you just shot, you may notice a few ectoparasites (external parasites). Four species of mites and six lice species like pheasants. Mites can average over 100 per bird, with numbers decreasing from June to September. They are not really harmful to the bird as they feed only on the feathers. Where bare soil can be found, pheasants often dust themselves to keep lice and mites at bay. South Dakota did find an occasional tick on pheasants, but it was not the lyme disease carrying species.

Three kinds of endoparasites (internal parasites) frequent most pheasants. These helminths (wormlike) are cecal worms, tapeworms, and intestinal nematodes (long, thin worms). Over one third of the birds will have a resident population of these worms. Such worms do not significantly contribute to losses of wild pheasants. With confined birds though, they can reach such numbers as to seriously affect the birds' health. As with all harvested game animals, the rule is to clean, wash, and cook the bird well.

### **"Cold Feet?"**

December brings freezing temperatures and snow. A pheasant's lower legs are not covered with feathers. So does he get cold legs and feet? Yes, but why? Some believe cold legs are caused by so much of the blood's heat being lost through the bare legs. Others believe that some mechanism in the upper leg (feathered thigh) conserves heat by removing some blood heat before going to the lower leg - so cooler blood makes them colder than the rest of the body. Too bad the pheasant does not have the willow ptarmigan's feathered legs. Ptarmigan live in much colder climates than pheasants, and need the added protection.

Mother always said if your feet were cold you should put on a hat. The pheasant has no

hat, so he will, under cold conditions, sleep and rest with his head partially placed under his wing feathers. It helps cut his loss of body heat. Ptarmigan with warm, feathered legs need not sleep so. Sleeping ducks always seem to partially cover their heads even in mild temperatures. The duck's bare legs in water losses 4 times more heat than pheasant legs, so the duck has more need to conserve heat loss from the head (bill).

### **"Satellite Photos"**

In December pheasants have started congregating in hen and in rooster flocks. All head for winter cover. Some day states may use Landsat satellite photos to map this winter habitat. Landsat is an EROS Data Center satellite. A state can be photographed in 3 to 5 orbits. To examine winter cover, pick the date when the area of interest has 100% snow cover, and is cloud free. EROS photos for that day can be blown to 1 inch per mile. All grass and woody cover above the snow cast shadows. On the black and white photos the shadows are various shades of gray, and indicate the types of cover: coniferous vs. deciduous tree stands, wetlands, unharvested crop fields, and farmsteads.

Unfortunately, the photos are only 85% accurate. Small wetlands can be confused with farmsteads. You can tell if the tree stand is coniferous, but what of the understory's condition? Was it grazed to nothing? EROS equipment can differentiate between 300 shades of gray, but no one knows which shades mean coniferous with understory and without understory. Studies comparing photos with actual ground measurements are needed. Also with better development techniques, the photos will become more useful.

### **"Why Food Plots?"**

Planting food plots for pheasants has been emphasized by both Pheasants Forever and State Game agencies for years. Yet there is little research that has studied the benefits for the birds. While studying bobwhite quail, Kansas found that quail near food plots weighed more, had more fat, and more energy in their crops than quail far from a food plot. The fatter quail could survive 22.5 days at -4°F without feed, while the thinner birds survived only 3.3 days. Minnesota found that during a mild winter, turkeys near food plots weighed the same as those away from plots. But in a typical winter, turkeys near food plots had only 10% mortality, while turkeys away from the plots had 60%.

No similar studies have been done with pheasants, but South Dakota is starting. Under persistent snow cover, pheasant weight loss has been documented. Studies in Wisconsin, Ohio, and Ontario noted that hens entering spring in poor condition delay laying eggs, have lower reproductive success, and increased summer mortality.

### **"What Kind of Food Plot?"**

In many states, January pheasants consume more corn than any other food. So most people prefer to plant corn food plots. Corn contains 3.43 kcal/gram of energy for the birds. Do pheasants prefer corn to grain sorghum? Unknown! South Dakota is now studying which pheasants prefer. How do these compare to sunflowers, soy beans, or

small grains? Again, unknown! Soy beans and small grains do provide birds with fall food, but not generally winter food. They are easily knocked down by rain, wind, and snow. With deep snows in northern states, the food must stand above the snow. So corn, sorghum, or sunflowers work best.

Variety may be the spice of life for pheasants too. Plant a mixture. The most common mixture is corn and grain sorghum planted in alternating rows. One elderly farmer planted 1/3 of his plot to forage sorghum, 1/3 to spring wheat, and 1/3 to alternating rows of corn, grain sorghum, and sunflowers. The birds spent their fall and winter nights in the forage sorghum (little food value). They ate the wheat as a fall food, and consumed the taller foods in winter. The taller foods also provided wind and predator protection for the birds.

### **"Food Plot Location?"**

Food plots have always been considered only one of three parts necessary for good winter habitat... tree/shrub cover, idle grass cover, and food plots. Ideally these three should be adjacent to each other, not a mile or two apart. But often the landowner has trees here, a wetland over there, and some grass in the other section. So where should he put the food plot? South Dakota research has found that more pheasants will use a food plot when it is next to idle grass. Second choice was a plot next to a wetland, and third next to trees.

Recall that pheasants like to spend these cold winter nights in grass or wetlands (as opposed to trees and shrubs), so having breakfast right next door to the bedroom is handy and saves energy (not having to fly a mile for breakfast). Also recall though that blowing snow can fill those grasslands and wetlands, forcing the birds into the trees and shrubs for cover...but now the food plot is way over by the snow filled grass. Instead of one 6 acre food plot next to your grass, how about 2 acres for the grass, 2 for the wetland, and 2 for the trees?

### **"Food Plot Size?"**

The placement will often dictate their size. In many instances, landowners can not allocate large tracts of land. If smaller plots are needed, the amount of snow drifting into them can be lessened somewhat by establishing snow traps. This is easily accomplished by harvesting 12 rows just inside the outer 6 rows on the windward side. This is a good management practice on larger food plots as well, especially if they are to be harvested next spring.

Whenever possible, large food plots should be located next to winter cover on the windward side (generally the northwest). If this is not possible, effective food plots can be established nearby if they are linked via corridors or other escape cover to traditional winter covers. In the absence of any traditional winter cover, large 10-acre-plus blocks of corn may be planted to serve as both food and shelter for the birds.

### **"Food Plot Age?"**

A two year old food plot? Consider planting a 5 acre food plot this year which will provide pheasants with feed next winter. Then the following spring replant only half of the 5 acres. While the replanted half is growing, the other half will grow to annual grasses which provides good habitat for the pheasant broods. Insects are attracted to the undisturbed half, and the hens bring the chicks for the insects. The grass and weeds in the old half provide good winter cover when the snow comes, and the other half has the food. Next spring plant the two year old half, and leave the one year old half alone.