

## **APRIL**

**By Ken Solomon**

### **"Gearing Up For Spring"**

In April the hen's productive energy increases for ovary growth and for body weight gain. Remember, the hen reaches her greatest weight in April so she needs more energy to produce the muscle and fat. As with the rooster, the hen's maintenance energy continues to decrease in April as increasing temperatures reach the hen's thermoneutral zone. Unlike the rooster, the hen is gaining weight in April, which means she is consuming more food now than she did last winter. A hen consumes 61 gm and 69 gm of food daily in March and April, respectively. She consumed 52 gm and 55 gm in January and February, respectively. Thus the hen's total metabolic rate and metabolic needs have increased over that of last January. The exact relationship to the rooster's metabolic needs is unknown. It is probably far greater for the hen, as she prepares for a rigorous breeding season.

### **"Hen/Rooster Diets"**

The diets of the rooster and the hen diverge in March and April. Whereas the rooster's diet changes little from January to June, the hen's diet shows marked changes, particularly in mineral components. The diet of the hen contains 6 times more calcium than the rooster's diet in April, 14 times more in May, and 10 times more in June. This May peak in calcium occurs during peak egg-laying. Corn is a good source of vitamin A, but a poor source of calcium. To obtain calcium, the hen actively seeks calcareous grit. If she cannot find it, she will extract calcium from her own bones for the eggs.

Protein intake increases to a May and June peak of 14.6 percent for the hen. The rooster reaches a peak of 12.8 percent in April. The winter corn diet provided only 8.8 percent protein. Insects provide the greatest protein source, and the hen will consume more insects than the rooster.

### **"Territories and Harems"**

The rooster's breeding territory may be as small as one acre, or as large as 75 acres, depending on the number of other roosters. With more roosters and a smaller territory, the rooster may be so busy fighting neighbors that it interferes with his gathering and servicing of the harem. As the breeding season progresses, territory size will decrease with the rooster spending more time with his harem.

The rooster starts gathering his harem in early April. The crowing and beating of his wings reaches peak intensity in mid-April, and continues through May. His testicles also reach maximum size in April. The crowing warns other roosters to stay away, and says to the hens, "I'm one loving dude." Harems as large as 18 hens exist in the wild, but normally are only 3 or 4. He can serve up to 50 hens. In South Dakota the average

harem size observed from 1949 to 1981 was only 2.6 hens per rooster. Both low harem sizes, and small rooster territory sizes means that there are more roosters having to divide the available hens and land. In other words, during last year's hunting season you could have harvested twice as many roosters without hurting this spring's breeding population.

### **"Eggs and Mating"**

The hen will lay eggs at random as her ovary gears up to full production of one egg a day. Because she produces precocial chicks (ie. hatched with open eyes, covered with down, and able to leave the nest immediately), she has to put more energy into her eggs than does a robin or dove in their eggs. These birds produce altricial chicks (ie. hatched with eyes closed, body naked, and not able to leave the nest immediately), and need less energy per egg since the chicks are less developed at hatching. The pheasant hen's egg needs 1.6 kcal/gm, while the robin's egg needs only 1.0 kcal/gm. The average 30 gm pheasant egg contains 49 kcal and took 69 kcal to produce. This is 18 percent of the hen's daily energy needs in April. Cold weather in late April can slow the hen's egg production, since eggs require a substantial portion of her energy intake.

As the hen prepares for egg laying, she is courted by the rooster. She comes and goes as she pleases until mating starts. Then she will limit her travels to a 37 acre area. Numerous matings with the rooster are not necessary, as sperm remains viable within the hen for 11 to 42 days. An entire nest of eggs could be laid after one mating.

### **"Frozen Nests"**

The first eggs produced in April are dumped at random wherever the hen might be at the time. Even a duck may find a pheasant egg in its nest. The hen's ability to lay and to nest is subject to late April storms and cold weather. As the hen gears up to 1.3 eggs per day, cold temperatures and shortages of food will delay production.

While we might welcome an early spring, it is of little benefit to the hen's nesting. Egg laying and nesting is tied more closely to day length than to warm temperatures. But for the early hen that starts a mid-April nest, one freezing night can destroy her effort. Because the hen does not incubate until the nest has 12 eggs, her April nest may freeze if temperatures dip below 29°F. Let's say she has laid her first 9 or 10 eggs in the nest, and it freezes that night. She will continue laying the remaining 3 or 4 to fill the nest, and then start incubating all 12 eggs. But only the 3 or 4 will hatch. This is her family, small as it is, and she is done for the year. She will not nest again.

### **"Insecticide - Direct or Indirect Effects?"**

People researching the effects of insecticides on pheasants feel that most insecticides do not have a harmful direct effect on the birds. A crop sprayer may pass right over the hen on her nest, misting her with the chemical, and she lives to hatch a family (no one knows

the effects of misting the chicks). Yet, why do the number of pheasants seem to decline with spraying? In other words, are there indirect effects of the insecticide? Hens will take their chicks where food can be found. By killing all the chick's protein sources (bugs), the hen will try to find better feeding elsewhere. Unfortunately, if the spraying is widespread, where can she go? The diets of newly hatched chicks are 90% insects. This provides them the 27% protein intake necessary for good growth. It also helps them gain control over their own body temperatures. A hen broods her chicks because they can not control their own body temperature for the first 7-8 days. If the chick's diet falls to 22% protein, it takes the chick 12-13 days to regulate its temperature ... almost doubling the time it could die from cool weather.

### **"Oil Gland"**

April often brings cold rain or wet snow. While a summer rain may bring cooling refreshment to the pheasant, a cold April shower could easily cause the bird to lose too much body heat and die. That is, if it were not for their waterproof clothing, feathers. Newly hatched chicks, covered with down, must not get wet. Though the down is fluffy and warm, it gets wet easily and kills the chick. The hen must shelter her chicks. Once the chick has its first full body feathers (about 3 weeks), it must waterproof them. The chick's first feathers, or any new feathers on an adult, are not naturally waterproof. The bird must do the waterproofing by using an oil gland on the top-base of their tail. It's called preening.

The oil gland (called uropygial or preen gland) secretes a substance containing much fat, fatty acids, and wax. The bird, while preening (straightening and cleaning) his feathers, will pinch the gland nipple with its bill and/or rub its head feathers on the nipple. The waxy substance is then rubbed on all the body feathers. The wax not only waterproofs feathers, it also helps the bill maintain its surface structure and gloss.

### **"April Busy Month"**

Spring is very active for roosters and hens. Roosters use energy in fighting, crowing, displaying, and courting hens. A rooster can service over 20 hens. His urge to reproduce exceeds his need to eat, so he loses weight. Even with a harem of 18 hens, the rooster can fertilize 87-97% of the eggs. Roosters remain sexually active through July to serve re-nesting hens.

Depending on weather, the hen may gain weight in April. She is also eating more than she did last January. While the rooster shows little change in diet, the hen's diet shows marked changes. She eats 6 to 14 times more calcium than the rooster. Her May peak in calcium intake occurs during peak egg-laying. If she cannot find calcareous grit, she will extract calcium from her own bones for the eggs. She also consumes more insects than the rooster.