

NOVEMBER

By Ken Solomon

"Finding Winter Cover"

November is here and the first winter snows threaten. With the first real breath of winter, pheasants begin to drift toward thicker cover. If shelterbelts, wetlands, idle grass areas, and crop fields are properly located, the pheasant need not move far to find protection. Ideally these cover types should be located within 0.2 miles of each other. The farther the bird has to travel, the worse the winter habitat. In Wisconsin adult cocks need move only 0.4 miles from their breeding area to find this winter cover, while in Illinois and Michigan they need travel 2.0 and 3.0 miles, respectively. On average, if the cock moves 0.4 miles, the hen will move 0.6 miles, and young birds 1.6 miles. Where winter cover is not properly spaced, pheasants will move greater than 10 miles. Unfortunately, when winter cover is this sparse, birds must use more energy locating it. Once found though, this sparse cover is subject to over crowding and overuse before spring.

"Needing More Food"

While pheasants are finding the winter cover they require, the outdoor temperatures have fallen below the bird's thermoneutral zone. That is, they can no longer simply ruffle their feathers to stay warm....they have to start eating more food. In fact, they consume 33 percent more food in November than they did in October. This increased food intake is used to both stay warm and to produce body fat (for insulation and energy storage). While you and I can put on a coat or just stay indoors to stay warm, the birds have only one set of clothing and must eat more. Not only is the pheasant forced to use this increase energy intake to insure current survival through warmth, it must eat enough extra to insure future survival through fat production. These fat reserves though will prove beneficial when the first blizzard arrives.

"Food Habits"

The availability of certain foods has changed since last summer, and pheasants must change their food habits to meet their higher energy needs. The waste grains of summer have sprouted, rotted, or been plowed under. Grains like barley, wheat, and oats now constitute only 3 percent of the pheasant's diet. The use of these grains is replaced by corn, since it is harvested from October to December. In fact corn attains its highest use in December when it is 77 percent of the bird's diet. At this time, when birds need more energy to survive, a corn diet has a third more metabolizable energy than a small grain diet.

During early winter the amount of weed seeds and insects consumed decreases from the fall months. Wild sunflowers which were 9 percent of the fall diet are only 2 percent now. The decrease is due to seed availability, not to a change of preference by the pheasant. While insects were once 16 percent of the diet, they now 2 percent. This

winter diet of insects is limited to dead remains.

"First Blizzard"

Suddenly the first winter storm arrives. The misty rain turns to ice and covers every twig and blade of grass, changing to snow by evening and accompanied by wind. The hen's food supply may be unreachable for two days. However, her body fat can help her. By the first of December her body fat is 9 percent of her weight, or about 98 grams. Since each gram contains 7.0 kcal of usable energy, the hen is carrying a storehouse of 687 kcal metabolizable energy. This is enough canned energy to keep her warm for nearly 3.5 days. Of course she will be hungry when the blizzard passes, but at least she has survived. If you could choose when to have blizzards, pick November as they have the least effect on the birds. In November the birds have ample fat, and the ice and snow will probably thaw to free food supplies. Fat reserves will be low, and snows are less likely to melt after a blizzard in December, January or February.

"Enough Food?"

With colder temperatures and higher energy needs, is there enough food available to keep the pheasants warm? In 1947 South Dakota estimated that 35 million bushels of waste grain were available to pheasants in November. The pheasant population was 8.0 million. But more efficient farming practices and machinery have lowered the amount available today. This may be yet another reason for our current low bird numbers. Food plots left standing for pheasants would increase the number of birds surviving to breed next spring. Corn or grain sorghum areas 2 to 5 acres in size should provide enough energy to maintain 50 to 150 birds through the winter. Unfortunately the waste grain from last fall's harvest has been tilled under, is lying on the ground, and will be covered with ice and snow by mid winter. What the pheasant needs is standing grain ... above the soil, ice, and snow.

Pheasants would also consume more wild sunflower seeds during winter if they were available. Unfortunately the spraying of roadsides, railroad right of ways, and set aside acres eliminates this valuable energy source.

"Hunt Field Edges"

Pheasants are tied very closely to farms with a high number of good field edges. So, it makes sense to hunt such farms and to hunt those edges. Edges are the transition zones between different cover types, and the most successful hunters will concentrate their efforts there. Regardless of the size of a field, most birds will be within 40 feet of its edge.

Biologists often call the pheasant an "edge" bird, because the bird likes to spend much of its time near the edges of farm fields. A farm can be evaluated as to how good it is for pheasants by determining its number of field edges. Using aerial photos of the farm draw 5 lines through the farm that intersect at the farm's center. Now count each time a line

crosses from bad-to-good or good-to-good fields. Do not count from one corn field to another, from farm field to a mowed roadside, or from a farm field to a grazed shelterbelt or to a drained wetland. Add the edges for all 5 lines, divide by 5, and you have that farm's "interspersion index." The higher this index, the more potential you have for a good pheasant population.

"Running Pheasants"

During the hunting season, hunters harvest only the birds that fly. If only the runners survive the season, will we in a few years have only runners? Can't shot them on the ground! If each pheasant in the population was strictly a flyer or strictly a runner, in only 10 years all birds would be fliers. Genetically, this is based on - knowing that each year over 50% of the roosters (mainly fliers) are killed - assuming that half of the hens are either fliers or runners - assuming no differential winter mortality between fliers and runners - and applying a couple genetic principles. Runners every where in 10 years, but it does not happen!

Forty years ago your Grandfather had the same worry about runners, but we still harvest over half the roosters each year, and they are all flying. So pheasants are not strictly fliers or strictly runners. Consider though that it is easier for today's rooster to run than it was 40 years ago. With no foxtail millet under the corn, running is easier. There is no hindrance running through a tree plot with no under story of grass, across an overgrazed pasture, or across sunflower-free roadsides.

"Hen Shooting?"

Could there be a hen pheasant season? The hunting public says a definite "No!" Why kill the hens that will produce future birds? Pheasant biologists disagree among themselves about a hen season. Legal hen shooting in Wisconsin found that harvesting less than 20-25 % of the hens did not lower future pheasant numbers. But Montana found that up to 45 % of the hens could be harvested with no measurable adverse effects upon next year's population. Sound pheasant management is based on solid biological facts. Because biologists do not agree on a hen season, no hen season will be requested.

Season regulations state that only roosters will be shot. Whether by accident or on purpose, hens are killed each year. Iowa estimates that 9% of the fall population of hens is killed, South Dakota 9-13%, Minnesota 6-11%, Wisconsin 16%, and Nebraska 0-14%. These amounts are not considered serious, however, since they are only a fraction of the annual turnover loss which normally takes at least half of each year's hens. In any case, don't shot hens and become a better shot. Of the birds surviving the hunting season, 24% of the roosters carry lead shot, and 3% of the hens carry shot.

"Hunter Check Stations - Biological Data"

Check stations are set up the first and second weekends of the hunting season in 45% of the pheasant states. Such stations are meant for 1) law enforcement, and for collection of

2) hunter success information, and 3) biological data. Of these states, only Wyoming, North Dakota, South Dakota, and Nebraska collect biological data by aging roosters at their check stations. By knowing this fall's age ratio (# young roosters shot to each adult shot), state managers can calculate a fall index of the reproductive success. The mathematics involves dividing this fall's age ratio by last winter's sex ratio (# hens per rooster). Result? If 2.0, the bird population is stable. Above or below 2.0 indicates an increasing or decreasing population. You can collect both winter sex ratio data, and fall rooster shot age ratio on your own land to see how your population is doing.

"Survival until Fall?"

Of the pheasant chicks produced on your land last spring, how many have survived to the fall hunt? Let's say that when you kept track of broods last July that you found each hen had an average of 8 chicks. This production was good, but you wondered how many would survive until fall? The percent survival to fall = $((F/W) \times 2)/B \times 100$. Where F=fall age ratio, W=winter sex ratio, and B=brood size.

First, how many young roosters were shot for each adult shot on your land (fall age ratio)? Let's say 9 young shot per adult. Now divide this by how many hens you saw last winter for each rooster (winter sex ratio). Let's say it was 6 hens per rooster. So $9/6=1.5$. Multiply this by 2 to get fall chicks per hen. So $1.5 \times 2=3.0$. Remember? - your July broods had 8 chicks per hen. Going from 8 last summer to 3 this fall means only 37% of the chicks survived to fall. Maybe it was those record high temperatures in August.