Springtime Reds Precedes Green
By Paris Reidhead, shared courtesy of Country Folks

Earth's atmosphere consists of approximately 78% nitrogen (N), and 21% oxygen (O), but the vast volume of these two elements are in couplet form, i.e., N2 and O2, respectively. The remaining one percent consists of carbon dioxide, nitrous oxide, and methane (all three of these being greenhouse gases), various forms of sulfur, and some trace and rare earth elements. The actual amount of N that annually accompanies snow and rain down to each acre of cropland varies between two and 12 pounds. Thus, most climate scientists presume an average value of seven pounds. They also believe that snowflakes… due to their crystalline structure… pick up more N than does liquid water. This same physical trait better suits snowflakes to bind with airborne chemicals, including pollutants.

How much N you get from snowfall depends on your location and the amount of snow. The average amount of seven pounds of N seems tiny compared to the 100-150 pounds per acre per year applied by most corn growers. But it's free! — thus a nice side benefit to the beauty of falling snow. Rain and lightning do contain N, but snow has a few agronomic advantages compared to these other two sources. First, snow stays around for a while, liberating its nutrients slowly. Also, snow insulates plants from temperature fluctuations, which can cause heaving and other freezing/thawing issues. Thirdly, snow makes strawberries and other small plants less visible to roving herbivores and omnivores. Fourthly, snow keeps plant growth from starting too early. Lastly, snow — unlike heavy rainfall — doesn't leach nutrients away from plant roots.

Let's concentrate on spring snow in the Northeast. Residents of Nova Scotia (effectively an extension of the Northeast) categorize their snowfall three ways: first there's the "Robin's snow", which occurs just as these birds migrate home from their southern winter habitat. Then there's the "smelt snow", which occurs when these fish are running in the rivers near the coast. Thirdly and last, these Acadians recognize this airborne N as "poor man's fertilizer", which lights on freshly plowed land in the spring.

Leaving Acadia behind, we let our minds visit Central Vermont — where garlic growers particularly appreciate a heavy snowfall. They believe that garlic does well under the thick white blanket, which gently sheds the N that it borrowed from the atmosphere. But these growers do admit that when the topsoil is frozen hard, much of that N cargo will run off when the snow melts. Spring snow on the other hand, they point out, falls on ground that is not frozen, and thus is able to dispense nutrients (like N and moisture) into the soil. Snow, in general, boasts great insulating properties, protecting soils and vegetation from low temperatures and winds. Snowflakes' crystalline structure creates a deep air mattress over the

ground. So it's no surprise that fall-planted small grains, and some beans or flowers, are ready for a jack-rabbit start, even before the snow has fully melted. (This is one reason why fall-planted spring grains are increasingly referred to as winter forages.)

Now let's take our minds out of the U.S. once again, this time to visit Finland. Finns have their own signature event for their growing season, namely the formation of birch buds (the tiny growth points of future leaves). This occurrence marks the starting point for that country's spring barley culture. Birch trees are plentiful enough in Finland, so that the optimum time for planting this small grain is universally determined by the formation of these buds. Farmers planting barley later than this time milestone are considered by their peers to behind the eight ball. And those planting before birch buds appear are considered to be overly eager (like corn growers planting before soil temperature reaches 50 degrees Fahrenheit). Not only are barley growers with perfect planting timing respected by their peers, they're also respected by Mother Nature. Since almost one-third of Finland lies north of the Arctic Circle, hardly any of this Scandinavian nation is suited for corn and soybean. Most Finnish barley is fed to livestock, with the rest being consumed by humans as vodka.

Back home in the Northeast, I watch the late winter (or early spring) development of the birch tree in our front yard. This year, its buds began forming about March 20, probably about 10 days later than usual — and they're reddish-purple, similar in color to the hue symbolizing reawakening maple trees. Another sort-of red is so-called robin red-breast — the bird with an Acadian snow type named after it (most of us would agree that the bird's pigment is kind of a dark orange). There are other feathered red pigments that grace late winter snows — the most vivid being those of male cardinals — whose presence blesses the Northeast all year. Not surprisingly, when birch buds form, nearby maple trees typically are experiencing good sap runs (up till the point of being "buddy"). That's the time (regardless of what the calendar says) when barley growers are trying to get seed in the ground, provided snow is gone, and the field in question is dry enough to work. Along with many other crop advisors — I define "dry enough" as proven by small clouds of dust being kicked loose by mold-board plows, disks, row cultivators, field cultivators, chisel plows, etc.

Absent those little dust puffs, such worked soils are probably heavy enough to land hard enough to cause oxygen-robbing compaction. Hypoxic (low-oxygen) soils tend to invite certain weeds. So some patience might well be a productive crop input. For a spring small grain management package (not just barley), add some small clouds of dust to the birch buds so revered by the Finnish farmers. While waiting patiently, we can philosophize, asking ourselves if the soil is wet because it's cold — or is it cold because it's wet.

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