



Is Excessive Growth Effecting the Winter Survival of Small Grains?

A warm fall coupled with adequate moisture can stimulate small grain and cover crop fields to provide excellent growth. While this is a bonus if you were looking to take a late fall harvest, it is not a good thing for winter survival.

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Cover crop test plot near Quarryville, PA showing winterkill on ryegrass strip

With the increased use of diverse cover crop species, some farmers are finding that winter injury and winter kill can become a problem. Often when we think of winter kill we assume that a very cold snap combined with factors such as frost heaving are the culprits. This is generally true for late planted covers which have not developed an adequate root system nor carbohydrate reserves. Physical injury, cold temperatures and desiccation combine to stress and potentially kill tender young plants. With the advent of warm and wet falls, we are seeing the opposite. Species with excellent growth and establishment go into winter looking great and when the snow melts large areas of fields have “smothered” and died. In many cases the

growing points are also affected and the areas are either very slow to green up or are entirely dead.

In my experience the species which we need to pay the most attention to are the various annual and perennial ryegrasses. Ryegrass (depending on variety) is listed as being cold tolerant to as low 4 to -5 degrees F, and will take colder temperatures if there is a little snow on top; so for southern Pennsylvania, low temperatures are not the problem. The problem is that excessive growth can mat down trapping moisture and preventing air circulation and sunlight from penetrating the canopy. When this occurs and is also coupled with a heavy wet snow an ideal environment is created for the various snow mold diseases. Plants under stress, just as in humans, are more susceptible to disease and ryegrass can fall prey under these circumstances. You will often see small affected areas in other species such as small grains and other covers, but generally these are limited to low spots in a field or areas where water has ponded.

What’s the solution?

Ryegrass has excellent yield and nutritional factors, so I don’t want to discourage you from growing it. One consideration is to include ryegrass as part of a mixture with other grasses and legume species. I have grown a ryegrass, triticale and crimson clover mixture for the past three successive years with excellent results. Another option is to monitor growth and if needed take a late cutting to open up the

canopy and remove excessive biomass. It's not too late to walk your ryegrass plantings and consider this option. If the canopy is approaching 7-8 inches and is fairly thick, a cutting may be warranted.

Dr. Greg Roth is reporting barley and wheat fields which are up to 12 inches tall. His feeling is that these fields may also be "set up" for significant winter injury. In both cases, the excessive growth could be harvested for forage provided the volume is sufficient, or left on the field if uniformly scattered. If you have excessive forage but cannot harvest the forage from the field, it may be better to do nothing. Another option for some growers would be to graze these fields when soil conditions permit. This is a fairly common practice out west. A high cutting about 4-5 inches is a consensus I've found amongst the local seed industry.

Finally, environment conditions from here on out will have a great effect on winter injury this, and every year; however, ryegrass fields with substantial growth need to be evaluated. I have also seen this effect on a more limited basis for crimson clover.