

The effects of weather on plant growth



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Weather affects plants in many ways that we may not fully realize. Weather is what is happening now and over a

growing season, things such as precipitation, humidity, temperature, wind, and sunlight. On the other hand, climate is historical weather or average weather conditions, over a long period of time.

This winter, like last winter, the weather conditions in Mississippi were cloudy and wet for the last few months. Conditions can change from day to day. These cloudy days can have an impact on photosynthetic activity, and, therefore, winter annual pastures do not accumulate the amount of sugars necessary for growth and development.

Cloud cover and prolonged rainy conditions will impact plant growth. The frequent occurrence of clouds over extensive periods of time may have a significant influence on photosynthesis and transpiration of cool season annual forages, due to effects of variation in sunlight quality and quantity on photosynthetic activity and leaf temperature.

Under cloudy conditions, winter annual crops might try to produce bigger leaves in response to low radiation, while wet conditions can limit root development and nutrient uptake, as roots might not seek nutrients deep in the soil profile.

Under water logging conditions, grasses might have yellowing symp-

sorption, and impact the overall forage growth.

Under water logging conditions, the availability of several nutrients is reduced. The uptake of nitrogen (N) and potassium (K) is impaired in the roots, because of the lack of oxygen. The leaching of the soil mineral N can result

in less N being available to cool season annual grasses. Under water logged conditions, the uptake of Phosphorus (P) and K may be reduced and lead to early maturing of the plant.

The gains of stocker cattle are largely related to quality and quality of the pasture as well as total grazing

days. However, due to prolonged periods of rainfall, many pastures can be damaged due to bogging, especially in heavy clay and clay loam soils. Bogging is nothing more than livestock walking

on the wet soil and tearing apart the pasture's soil structure. It depends on factors such as soil type, amount and frequency of rainfall, forage species, and pasture management. As the soil becomes wet, it loses strength, reducing its ability to withstand soil compaction and bogging. This prevents water from dispersing through the soil and impacting plant growth. On a normal winter, bogging in winter grazing might range from 10% to 20% of the pasture's area, but with the amount of precipitation received over the last three months, that percentage can be considerably higher.

This can have a huge implication in spring forage growth, summer pasture recovery, and soil biological activity that is vital to a healthy soil environment.

We just need to remember that, no matter how well we plan, Mother Nature is always in charge. All we can do is try to stay ahead of the weather to meet the forage needs of livestock. We need to keep in mind that out of ordinary weather conditions can impact pasture growth, pasture utilization, nutrient uptake, increase weed competition, reduce forage nutritive value, impact soil structure, and pose animal health issues.



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toms and stunted growth. Excessive soil water saturation blocks the transfer of oxygen between the soil and the root zone. Low oxygen levels cause a decrease in root growth, nutrient ab-

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