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## **How a Grass Plant Grows – and Why It Matters...**

I've written multiple times about various production factors – or problems – associated with grass production. It's easy to focus on a single factor or 'issue' affecting stands, but it's also important to know why that plant may be responding as it is. Often that's due to how it grows.

Plants use their leaves to capture sunlight, converting it to plant-usable energy via photosynthesis. Some is used in the production of plant parts (leaves/stems/seeds). Some is used up in the growth and development process. Anything left is accumulated in roots or in the plant's crown. It's a seamless process as long as it's not disrupted – that's when issues can arise.

The 'balance' of the energy processes determines the health and vigor of each individual plant. In other words, if all the energy is used in growth and development and none is left to replenish root systems, an imbalance can occur. That may not start out as too big of a deal. Maybe we were dry after harvest and didn't get much recovery. Maybe grazing was shorter than intended and we consumed a lot of the leaf factory that was going to be used for regrowth. We may not see it at first, but the stand may start to lose some vigor. Research has shown that a plant having 50 percent of its leaf area removed will have two to four percent of its root growth stopped. That's the sweet spot, but if you increase removal to 70 percent, almost 80 percent of the plant's root growth stops. That *can* be a big deal, and if additional stressors are, individual plants and eventually the health of the entire stand can be at risk of becoming compromised.

This time of the year can be a 'critical' period for grass stands. Our harvest management plays a big role - how much foliage did we remove at haying and how quickly is it regrowing? Is grazing pressure appropriate so the 'solar factory' keeps working like it should? Are other factors affecting the ability of stands to respond? Are insects (fall armyworms are the one we always think about, but grasshoppers feed on grass, too...) adding 'injury' to the factory? Are weeds taking over and getting better use of the sunlight energy than our grass plants – and stealing moisture along the way? If the plant's factory operations remain in balance, all is well. If even a small part of the factory is 'shut down' for some reason, it can likely respond well. The problem occurs when multiple things start affecting the plant – or the plant was compromised to begin with. At that point, stressors can start to pile on.

In some cases, there's not a lot we can do. In others, our knowledge of how that plant is responding can help us make decisions as we face other challenges through the growing season. It can also help us better understand how that plant may respond this fall or even next year. Take a look at stands now and see how the factory might be performing.