Production Data Gathering Guidance

The overall objective/ idea behind gathering this data is to get an idea/estimate of a pasture's productivity and thus available forage. You can use the hoops provided to your field office, or you can use your own, but you will have to have the area calculated and be able to extrapolate from the sample size to acres, and the weight in grams to pounds. If you use the hoop provided, it is the number of grams in your sample multiplied by 44.59.

What you will need:

Paper bags – a big grocery sized one if the forage is long, or one or two lunch sized bags if forage is short
Marker
Scale in grams – 300 is probably a good one useful in most situations
Knife or scissors for cutting plants
Sampling hoop
Notebook and pencil

So on site, make a decision about sampling – if your pastures are uniform, probably one sample will be adequate. If you want more assurance, do three. If it is not uniform, you may need to take a sample in each distinct area, and decide what % of the field is made up of each. Take good notes on this.

Do you want to sample individual species, classes of vegetation (grasses vs Forbs) or all the forage? If they eat it all, I would sample it all. If you do separate it, you will need to place the different classes or species in different bags.

When "throwing" the hoop, you can make an informed decision, placing it in a representative spot if you have non-uniform pastures, or just toss it if the pasture is uniform– where it lands is where you sample. Go to it, and open the hoop to work it around tall vegetation in a nice curve. Push the outside vegetation away from the hoop, and be sure everything rooted inside the hoop is included in the sample. Get the hoop all set.

Now you are going to cut or clip. You want to do this right the first time to minimize your time spent. Take an area and grab the plants, and cut them off at the ground. Right at the ground. We are calculating all above ground production. Take a look at the litter if present and try to determine if it is last year's growth or this year's growth. If this years' then include it in the bag. Once you have all the forage that you can reasonably get, if there is still more there, make an estimate of how much, grab an equivalent amount from outside the area, bag it, and you are done with the sampling.

On the bag, write the following:

Name of producer
Date
Name of pasture identifier

Now, you need to weigh the sample. Using your gram scale, get your total weight and write it down on the bag, with the weight of the bag alone labeled, and subtract it on the bag. Show your work. Label the weight of the forage alone as "wet weight"

Take this and all bags with forage back to the office with you. Open them up and let them air dry for two weeks. Then, weigh them again in similar fashion and document on the bag : weight minus bag = “dry Weight”

That dry weight is your total production value in grams per hoop. To make that pounds per acre, simply multiply by 44.59. This gives you total above-ground dry matter pounds per acre. This is important because forage intake for animals is always expressed as dry matter intake. So when we say a cow eats 2.6 % of her body weight or 26 pounds per day, that is in dry weight.

When calculating available forage, we use a take half and leave half calculation, but the utilization includes trampling loss. So available forage is going to be calculated as 25% of the total forage. This is called the efficiency rate. With management and monitoring this can be tightened up, but this is what is used for initial stocking rate.

This is going to give you a good idea of the production potential for a pasture. If you are sampling at the end of June so you have half the season left, make that adjustment to your overall production amount (multiply it by 2). Keep in mind this is all an estimate and there are many factors that are going to change forage production, which is why for management, we are relying on the grass to tell the producer when it is time to move the herd.