Pasture Stick Instructions

developed by the Clinton County Conservation District

Step 1- Determine plant density

1. Select a spot in the pasture that represents the forage mix (or even better, select 2 or 3 spots and average your results).
2. Slide the pasture stick under the leaves so that it is resting on the ground with the dot grid face up.
3. Count the dots that are visible, without moving your head side to side.

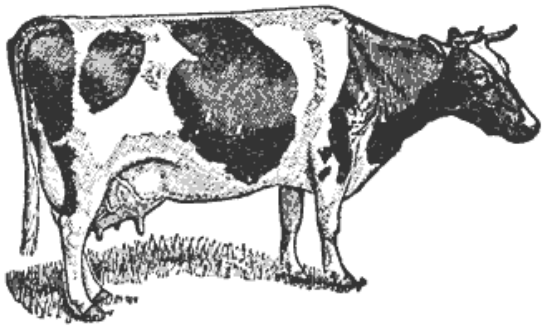
Step 2 – Estimate Dry Matter (DM)

4. Identify the forage species present (see common examples in Table 1 on this sheet).
5. Go to the chart on the stick (or Table 1) and using the number of dots that were counted, estimate the Dry Matter/Acre/Inch.
6. Measure the average height of the standing forage.
7. Refer to the pasture stick for grazing residue height (black strip).
8. Subtract residue height from the standing height to calculate the inches of available forage.
9. Multiply the available forage inches x DM/Acre/In (from Step 5) to determine pounds of available forage per acre (lbs/acre).

To determine stocking rates or days

1. Consult the stick (or Table 2 on this sheet) for the Dry Matter (DM) requirements as a % of the animal's body weight (%BW) [i.e. Cow/Calf is ***2.5% per day***. Cow weighs 1200 lbs, calf weighs 300 lbs = 1,500 lbs X 2.5% = ***37.5*** lbs per day DM required].
2. Multiply the available forage value determined in Step 9 and the % utilization (from Table 3 on this sheet). [i.e. ***1,200*** lbs available forage/ac X ***80% utilization*** for 1 day of grazing = 960 lbs].
3. Divide adjusted available forage by the DM requirement. [i.e. ***960 ÷37.5 lbs/day*** required = ***25 cow/calf pairs /ac for 1 day***].

Or determine the forage days for a given number of animals. [i.e. Forage from #2 above divided by the number of animals multiplied by DM requirements from #1 above. ***960 ÷ (10 cow/calf x 37.5) = 2½ days of forage***].



This information was compiled from the Project Grass Graziers Notebook, the pasture stick, and NRCS.

Reference Information

Table 1. Estimates of Pounds of Forage in the Vegetative Stand per Acre Inch

	Stand Condition		
	Good (0-1 dots)	Fair (1-2 dots)	Poor (3+ dots)
Orchardgrass and Clover	350	300	200
Orchardgrass and Nitrogen	300	250	150
Bluegrass and Clover	400	300	200
Bluegrass Mix and Nitrogen	400	250	150
Bluegrass and Nitrogen	350	250	150
Perennial Ryegrass and Clover	400	300	200
Perennial Ryegrass and Nitrogen	400	250	150
Tall Fescue* and Clover	400	300	200
Tall Fescue* and Nitrogen	400	250	150
Switchgrass* and Nitrogen	200	150	100

*recommended for beef cattle only

Table 2. Pasture intake as % of body weight per day

Cow/Calf	2.5%
Dairy Cow	2 to 4%
Dairy Heifer	2.3%
Stocker	3%
Beef animals	2.5%
Ewes - lactating	3.5 to 4%
Ewes - maintenance	1.8 to 2%
Horses	2%
Goats - lactating	5%
Goats - maintenance	1.8 to 2%

Table 3. Grazing days and % utilization

Days in pasture	Maximum % utilization
1	80
2	75
3	75
4	70
5	65
6+	60

As the number of days that animals are in a pasture increases, the maximum utilization of the forage in the pasture decreases due to selective grazing and forage fouled by manure and trampling.

Worksheet

Example

Number of dots	2
Forage species and estimated pounds dry matter/acre/inch	Orchardgrass/clover - 300
Average standing height - Residue height = available forage	7" – 3" = 4"
Dry matter/acre/inch **x** available forage = lbs/acre	300 x 4" = 1,200 lbs/acre
Dry matter requirements **x** pounds of animal = DM required per day	(cow/calf) 2.5% x 1500 lbs = 37.5 lbs/day
Pounds available of forage **x** % Utilization ÷ DM requirement = # of animals per acre per day	1200 lbs/acre x 80% (1 day on pasture) ÷ 37.5 = 25

Your numbers

Number of dots	
Forage species and estimated pounds dry matter/acre/inch	
Avg standing height - Residue height = available forage	
Dry matter/acre/inch x available forage = lbs/acre	
Dry matter requirements x pounds of animal = DM required per day	
Pounds of forage x % Utilization ÷ DM requirement = # of animals per acre per day	