

USING THE PASTURE ESTIMATING DEVICE (PED) TO ESTIMATE THE AMOUNT OF FORAGE AVAILABLE FOR GRAZING

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INTRODUCTION

The pasture estimating device (PED) is a tool that has been developed by the USDA-Natural Resources Conservation Service (NRCS) in New York State to help producers evaluate the amount of forage that is available for grazing in pastures that are between 6 and 12 inches tall.

The PED uses the relationship between plant height, plant density, and plant weight per unit of height to estimate the amount of forage available above a 2-inch residual stubble height. The PED does not measure the total standing crop or the entire yield of a pasture, but rather, only that which is considered available for use by grazing animals.

PROCEDURES

General

For best results, make sure the pasture being evaluated is between 6 and 12 inches tall.

Walk through the pasture following an "S" or "Z" shaped route.

Take a minimum of 10 measurements per acre of pasture. (Multiples of 10 make the math easier).

Keep in mind, the more measurements you take, the more accurate the estimate.

Measuring Sward Surface Height

At each sample point, place the PED in the forage perpendicular to soil surface. Place your hand, palm side down along side the PED parallel with the soil surface and slide your hand down the shaft until contact with the forage canopy is made. Record this height to the nearest whole inch. Next subtract 3-inches from this number. Subtracting 2-inches accounts for the residual stubble

we want to leave behind, and subtracting 1 additional inch accounts for the inherent variability in the sward surface height.

The initial height of the forage canopy minus 3-inches = inches of forage available for grazing.

In situations where sward surface heights are very uneven (generally when canopy heights are greater than 10 inches) or where increased post-grazing residual forage heights are desired or required to maintain plant health and vigor, livestock production goals, or other management objectives, accuracy of the estimate can be improved by subtracting an additional 1 or 2 inches.

Evaluating Sward Density

At each sample point, place the PED flat on the ground with the densitometer (the dot grid side of the stick) facing up, and slide it along the soil surface beneath the forage mass. With the PED flat on the ground and the herbage covering the PED, kneel down beside and perpendicular to it in such a manner that you can look directly down on the densitometer.

Next, without moving your head or shifting your body into various positions or angles, look straight down at the densitometer and count the number of dots visible.

Estimating Forage Availability

Once the average number of inches of available forage has been estimated along with its density (number of dots counted) go to the top of the PED and locate the forage type that most closely reflects the pasture species composition.

Next, select the column that represents the number of dots counted, and look up the corresponding pounds of dry matter/acre/inch value for the pasture type.

Multiply the pounds of dry matter/acre/inch of forage height by the number of inches of forage available. The resultant value is a density corrected estimate of the amount of forage available in the pasture.

Pounds of dry matter/acre/inch X number of inches of available forage height = pounds/acre of forage available for grazing.

The PED is not a precision instrument. However, when used in accordance with the guidelines suggested, more often than not, it will yield information that can be considered more generally correct rather than precisely wrong.