Estimating Feed Needs for Dairy Herds

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Financial projections for beginning or expanding dairy herds is heavily dependent on the accuracy of estimating feed needs. Many variables come into play such as acres of various crops, cow size, replacement rate and weight, feed wastage, harvest and storage losses and milk production level. Financial projections can be skewed due to often unaccounted for and/or underestimated variables.

Various crops can have a sizeable impact regarding the number of cows a farm can support. Dry matter production can range from 1.5 tons of dry matter on unimproved pasture to 10 tons of dry matter from high yielding corn silage. Dry matter production estimates in tons per acre are:

Unimproved pasture:	1.5 - 2.0	Intensively managed pasture:	2.0 - 4.0
Alfalfa/Grass hay:	2.5 - 4.5	Alfalfa/Grass seeding year	1.0 - 1.5
Corn Grain(85-180 bu/acre)	2.0 - 4.3	Corn Silage	5.0 - 10
Soybeans (40-70 bu/acre)	1.0 - 1.75	Oats/Barley (50-70 bu/acre)	0.7 - 1.0
Winter Wheat/Rye forage	1.0 - 1.5		

As shown, there are considerable differences in dry matter produced from various crops. Realize there are a variety of situations where various crops fit due to crop rotations, personal preferences and balancing dairy ration needs for fiber, protein and energy.

Once dry matter production is accurately estimated, storage and feeding losses need to be figured. Typically, losses average about 15% from harvest to storage and 10% from storage to cow. So, for feed produced on the farm, 25% loss is an average. The other major variables can be taken into account with the following **estimation** for average daily dry matter intake (DMI) needs per cow based on annual milk production per cow of 18,000 pounds for a 1350 pound cow.

DMI per cow = ((37.3+(lbs. milk produced - 10,000) x .00089)+((cow weight - 1300) x .035)) x 365
**Example ((37.3 + (8,000 x .00089)) + ((1350 -1300) x .035)) x 365/2000 = 8.43 tons dry matter

DMI per cow & replacement = (heifer weight x .025 x cull rate x 2 x 365) + (DMI per cow)