

Forage Acreage Needed to Support a Dairy Operation Determined by Yield and Quality of the Forages Harvested



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At the beginning of a new forage season, farmers should recalculate the forage needs for their herds. Some years a few more cows may be added, more heifers raised, steers added to the farm livestock inventory, or maybe the number of acres planted changes. As a result, the forage supply is very tight the next year. The farmer then feels they need to cut back so that they don't run out of forage before the next harvest year. As a result, cows may not milk as well as the farmer thinks they should or one runs short of forages. Planning ahead now can help prevent foreseeable problems in the future.

Calculate Your Forage Needs

To calculating the number of acres of corn silage and other forages needed, take into account the number of cows and heifers fed and how much you want or need to feed each cow or heifer. Feeding losses as well as harvest and storage losses need to be taking into account when calculating feed needs. For corn silage or square bales of hay, add 5% for feeding losses. Feeding large round bales or baleage, increase the feeding losses to 12% or more per cow (especially when stored outside uncovered). Once you have calculated your daily forage needs, multiply this amount by the number of days you need to feed. When calculating the number of acres needed, remember yields vary from year to year. When calculating the number of acres needed, use an average yield for your land not the high end of the yield you might get. It is always better to have more feed than you need than the other way around. Yields of corn silage usually average 12 to 30 tons of feed per acre.

Forage Yield Affected By More Than Weather

Besides weather, forage yields are affected by variety, date of planting and/or harvest, fertility, and other forage management practices. A large variation in yield can exist between varieties of corn silage. Within a Kentucky variety trial, yields ranged from 13 to 25 tons per acre. One problem we have seen is farmers running short of silage when they plant corn late, for example in June or the first of July. The yields for this late

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planted corn are often reduced from those of normal-date plantings. Drought growing conditions may also reduce yields substantially. Any changes in crop growth can substantially change the acreage needed to be harvested or changes in the feeding program to accommodate these changes in yield.

	Potential Corn Silage Yield		
	10 tons/acre	15 tons/acre	20 tons /acre
Number of cows supported by 50 acres of corn silage (cows are fed 55 lbs/cow daily throughout the year)	500 tons 45 cows	750 tons 68 cows	1,000 tons 91 cows

Grow versus Purchasing Alfalfa for the Milking Herd

Several dairy farmers have decided that it is more economical for them to purchase alfalfa hay rather than grow their own. Purchasing alfalfa hay allows the farmer to choose the quality of hay they want to feed. Also, farmers have found that they have more work than they can get done themselves.

Quality of Grass Hay Does Affect Future Milk Production

One common misperception is that late cut grass hay feed to dry cows and heifers does not influence milk production. Late cut grass hay is less digestible, cattle eat less of it, and as a result, they do not grow as well and they might lose body condition. Slower growth rates and lost body condition can result in lost milk income since these cows and heifers may produce less milk once they calve. Harvesting grass hay as the last forage operation in the spring costs producers money. Grasses should be cut about the same time as alfalfa. We need to measure forage yields based on the performance of cattle versus how many bales or tons of forage we harvest from a field.