

**Annual daily water required per lactating cow (gallon/day)**

Free water intake	28.8
Ration water intake	3.2
Total water intake	32.0
Dry cow allowance	2.2
Water trough cleaning	2.9
Parlor usage	6
Decking flush	12
Heat abatement	4.9
Plate cooler	14.4
<b>Total clean water required</b>	<b>71.2</b>
Clean water reused	14.4
Net water required	56.9

At the 2013 Western Dairy Management Conference, Joe Harner of Kansas State University presented a paper entitled "Scientific Data for Developing Water Budgets on a Dairy." In his paper, Harner compiled multiple scientific sources about the usage of water on dairies to create the water budget for a dairy shown in the table to the left. The assumptions\* listed on these pages were used in developing the estimates in the table.

\* Water troughs are cleaned daily at 10 percent of free water intake. Most troughs will only be cleaned once per week unless the water is used to flush the cross-over.

\* Free water intake is 90 percent of total water requirements.

\* Plate cooler water is 1.5x milk production.

\* Milk center water is 6 gpd/cow, excluding deck flushing.

\* Dry cows are 20 percent of lactating cows and drink 15 gpd.

**15 gpd/cow**  
**used for heat abatement**  
**(120 days)**

**80 lbs. of**  
**milk production**

Water consumption is **3x**  
milk production

**52 lbs. of feed consumed**  
at **50% dry matter**

**12 gpd/cow**  
required for deck flushing

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