

Animal Water Intake Calculation Protocols

Standard Operating Procedures for a California emergency

Ideally, animals should be allowed free choice access to water to account for variations in weight, metabolism, reproductive/ lactation status, disease and environmental conditions such as ambient temperature. For purposes of emergency planning, the numbers below provide a minimum requirement for planning purposes.

Small animals (dogs, cats) – 2 liters/day/pet*

Birds and other small pets – 1 liter/day/pet

*Large breed dogs (>50 pounds) will require 4 liters/day
Lactating animals will require 4 liters/ day

Horses

Estimated daily water intake (gallons per day) for horses of various body weights (lbs)	Resting / Normal ambient temp (41 to 77 degrees F) (Assuming 5.7 gal per 1000 lb per day) ¹	Heavy Workload (can double to triple the requirement) ²	Gestation / Lactation (Add a minimum of 30% to resting requirement) ²	Lactation (Add a minimum of 75% to resting requirement) ³	High heat and/ or humidity (can double to triple the requirement) ²
300 to 500 lbs (minis, ponies, foals/ yearlings)	1.5 gallons per day	3 to 4.5 gallons per day	2 gallons per day	2.75 gallons per day	3 to 4.5 gallons per day
500 to 1,000 lbs (large ponies and small breed horses)	3 gallons per day	6 to 9 gallons per day	4 gallons per day	7 gallons per day	6 to 9 gallons per day
1,000 to 1,500 lbs (average size horse)	6 gallons per day	12 to 18 gallons per day	8 gallons per day	14 gallons per day	12 to 18 gallons per day
1,500 to 2,000 lbs (European/ warmblood breeds)	9 gallons per day	Add 18 to 27 gallons per day	12 gallons per day	21 gallons per day	Add 18 to 27 gallons per day
2,000 to 2,500 lbs (draft breed horses)	12 gallons per day	24 to 36 gallons per day	16 gallons per day	28 gallons per day	24 to 36 gallons per day

¹ Federation of Animal Science Societies Guide for the Care and Use of Agricultural Animals in Research and Teaching (FASS Ag Guide) Third Edition, 2010.

² Cooperative Extension, University of Delaware. <http://ag.udel.edu/extension/agnr/pdf/eq-13.pdf>

³ National Research Council: Horse recommendations, 2007

Cattle

ESTIMATED DAILY WATER INTAKE FOR CATTLE* (gallons/day per animal)

Body Weight (lbs)	Ambient Temperature				Examples
	40°F	60°F	75°F	90°F	
400	4.0	5.0	6.3	9.5	Beef calves
800	6.3	7.9	9.9	15.0	Stocker calves
1,000	8.7	10.8	13.6	20.6	Feedlot steers
1,100	6.0	7.4	9.0	16.0	Pregnant beef cows
900	11.4	14.5	17.4	19.0	Nursing beef cows
1,300 (45 lbs milk/day)	21	22	28	35+	Lactating dairy cows
1,300 (90 lbs milk/day)	29	30	40	48+	Lactating dairy cows

* Source: NRC, 1996; ARC, 1980.