

CONVERSIONS

for COMMONLY USED WEIGHTS & MEASURES

Ron Torell, Northeast Area Livestock Specialist, University of Nevada, Reno
Bill Zollinger, Extension Beef Specialist, Oregon State University

This guide includes common international equivalents and formulas to convert one unit of measurement to another. It was designed to print off and keep in your shop, feed room or barn, for when you don't have internet access & online conversion calculators.

Formulas for Converting Measurements: LENGTH

To Change	To	Multiply By
inches	centimeters	2.538
inches	millimeters	25.380
centimeters	inches	0.394
meters	inches	39.370
feet	centimeters	30.480
feet	meters	0.305
feet	yards	3.000
yards	meters	0.914
meters	yards	1.094
miles	kilometers	1.609
kilometers	miles	0.621

Formulas for Converting Measurements: AREA

To Change	To	Multiply By
square inches	square centimeters	6.452
square centimeters	square inches	0.155
square feet	square meters	0.093
square yards	square meters	0.836
square meters	square yards	1.196
square miles	square kilometers	2.590
square acres	square hectares	0.164

Formulas for Converting Measurements: VOLUME

To Change	To	Multiply By
ounces (fluid)	cubic centimeters (cc)	29.573
cubic centimeters	ounces (fluid)	0.034
quarts	liters	0.946
liters	quarts	1.057
gallons	liters	3.785
cubic inches	cubic centimeters	16.387
cubic yards	cubic meters	0.765
cubic meters	cubic yards	1.308

Formulas for Converting More Weights & Measures

To Change	To	Multiply By
grains	milligrams	64.799
ounces (dry)	grams	28.349
pounds (dry)	grams	453.592
pounds (dry)	kilograms	0.453
kilograms	pounds	2.205
milligrams/pound	parts/million	2.205
parts/million	grams/ton	0.907
grams/ton	parts/million	1.100
milligrams/pound	grams/ton	1.101
grams/ton	milligrams/pound	1.102
grams/pound	grams/ton	1.103
grams/ton	grams/pound	1.104
grams/ton	pounds/ton	1.105
pounds/ton	grams/ton	1.106
grams/ton	percent	1.107
percent	grams/ton	1.108

parts/million	percent	move decimal 4 places to left
---------------	---------	-------------------------------

AREA EQUIVALENTS

DRY Measure VOLUME EQUIVALENTS		
1 quart	2 pints	67.2 cubic inches
1 peck	8 quarts	2 dry gallons
1 bushel	4 pecks	
1 bushel	1.244 cubic feet	2,150.42 cubic inches
1 chaldron	36 bushels	

SOLID OR CUBIC MEASURE		
1 cubic foot	1,728 cubic inches	
1 cubic yard	27 cubic feet	46,656 cubic inches
1 perch (stone)	24 $\frac{3}{4}$ cubic feet	
1 cord (wood)	128 cubic feet	(or 8 ft. x 4 ft. x 4 ft)
1 board foot	144 cubic inches	(or 1 ft. x 1 ft. x 1 in.)
1 gallon	231 cubic inches	(liquid)
1 standard bushel	2150.42 cubic inches	
1 cubic foot	4/5 of a bushel	

OTHER Weights & Measures

AVOIRDUPOIS WEIGHT		
1 dram	27 $\frac{1}{2}$ grains	
1 ounce	16 drams	437.5 grains
1 pound	16 ounces	
1 short ton	2,000 pounds	
1 long ton	2,240 pounds	(or 1 British ton)

HOUSEHOLD MEASURES		
1 teaspoon	1/6 ounce	60 drops
1 dessert spoon	2 teaspoons	
1 tablespoon	3 teaspoons	$\frac{1}{2}$ ounce
1 cup	16 tablespoons	2 gills
1 pint	2 cups	16 fluid ounces

LIQUID MEASURE		
1 pint	4 gills	
2 pints	1 quart	
4 quarts	1 gallon	
1 barrel	31 ½ gallons	
2 barrels	1 hogshead	
1 cubic foot	7.48 gallons	water
1 gallon	approx. 8.6 lbs.	milk
1 teaspoon	1/6 ounce	
1 tablespoon	½ ounce	
1 pint	16 fluid ounces	
1 ounce	29.57 cc	
1 cc	1 ml	
1 cc	.034 ounces	

TEMPERATURE Conversions		
1° C = 1.8° F	1° F = 0.555° C	

To Change	To	Formula
Fahrenheit	Celsius	(°F - 32) x 0.555
Celsius	Fahrenheit	(°C x 1.8) + 32

Content Equivalents:		
To Change	To	Formula
parts/million	percent	move decimal 4 places to left
percent	parts/million	move decimal 4 places to right
For Example:		124 ppm = 0.0124%
		or, 0.5% = 5,000 ppm

Livestock Average Daily Water Consumption

1. Cattle and sheep drink $\frac{1}{2}$ gallon (3 to 4 pounds) of water per pound of dry feed eaten.
2. Horses, swine and poultry drink about $\frac{1}{4}$ gallon (2 to 3 pounds) of water per pound of dry feed eaten.

Determine Water Tank Capacity

Stock Tank Capacities; Height: 2 feet						
circular tank			round-end tank			
diameter	capacity		width	length	capacity	
3	100	gal	2	4	95	gal
3 ½	140	gal	3	5	120	gal
4	185	gal	4	6	140	gal
4 ½	235	gal	5	7	185	gal
5	290	gal	6	8	195	gal
5 ½	350	gal	7	10	250	gal
6	420	gal	3	5	175	gal
6 ½	495	gal	3	6	220	gal
7	570	gal	3	7	260	gal
7 ½	660	gal	3	8	300	gal
8	750	gal	3	10	250	gal
9	950	gal	3	12	475	gal
10	1170	gal	3	14	560	gal

Animal Unit Equivalents for Different Classes & Ages of Livestock

Type of Livestock	Animal Units
Cattle:	
cow	1.0
cow & calf pair	1.0
heifer 2 years old & older	1.0
bull, 2 years old & older	1.3
young cattle, 1 - 2 years old	0.8
weaned calves to yearlings	0.6

Horses:	
Horse, mature	1.3
Horse, yearling	1.0
Weaning colt or filly	0.75

Sheep:	
5 mature ewes	1.0
5 mature ewes with lambs	1.0
5 rams, 2 years old & older	1.3
5 yearlings	0.8
5 weaned lambs to yearlings	0.6

Swine:	
Sow 0.4	0.4
Boar 0.5	0.5
Pigs to 200 lb. (91 kg)	0.2

Chickens:	
75 layers or breeders	1.0
325 pullets to 6 mos	1.0
650 8-week-old broilers	1.0

Turkeys:	
35 breeders	1.0
40 turkeys raised to maturity	1.0
75 turkeys to 6 months of age	1.0

International Equivalents for Weights & Measures used by Stockmen

Length Equivalents		
1 foot	12 inches	
1 yard	3 feet	
1 rod	16 ½ feet	5 ½ yards
1 furlong	40 rods	220 yards
1 mile	5,280 feet	1,760 yards
1 mile	320 rods	8 furlongs
1 league	3 miles	
1 hand	4 inches	(height of horse)
1 fathom	6.080 feet	(depth at sea)
1 nautical mile	1.151 land miles	(distance at sea)
1 inch	2.540 centimeters	
1 foot	0.305 meter	
1 yard	0.914 meter	
1 mile	1.609 kilometers	
1 fathom	6 feet	
1 knot	6,086 feet	
1 league	3 knots	
1 centimeter	0.394 inch	
1 meter	3.281 feet	1.094 yards
1 kilometer	0.621 mile	

AREA EQUIVALENTS

SURFACE or SQUARE MEASURE		
1 square foot	144 square inches	
1 square yard	9 square feet	
1 square rod	272.25 square feet	30 $\frac{1}{4}$ square yards
1 acre	43,560 square feet	
1 acre	160 square rods	4 roods
1 rood	40 square rods	
1 hector	2.258 acres	
1 square mile	640 acres	1 section
1 township	36 sections	

CHAIN or SURVEYOR'S MEASURE		
1 link	7.920 inches	
1 rod	25 links	
1 chain	100 links	4 rods
1 chain	66 feet	
1 furlong	10 chains	
1 mile	80 chains	
1 acre	43,560 square feet	
1 acre	160 square rods	10 square chains

CIRCULAR MEASURE		
1 minute	60 seconds	1 degree
1 circumference	360 degrees	
1 radian	57.296 degrees	