### Conversion Tables & Formulas

#### 1 Bushel Equals
- **Wheat and Soybeans = 60 lbs.**
- **Corn, Sorghum and Rye = 56 lbs.**
- **Barley Grain = 48 lbs.**
- **Barley Malt = 34 lbs.**
- **Oats = 32 lbs.**

#### Metric Weights and Conversions
- 1,000 grams = 1 kilogram
- 100 kilograms = 1 quintal
- 1 tonne = 1,000 kilograms = 10 quintals
- 1 kilogram = 2.20462 lbs.
- 1 quintal = 220.462 lbs.

#### Bushels To Tonnes
- **Wheat and Soybeans = bushels x 0.027216**
- **Barley Grain = bushels x 0.21772**
- **Corn, Sorghum and Rye = bushels x 0.025401**
- **Oats = bushels x 0.014515**

#### Yields
- Wheat: bushels per acre x 0.6725 = quintals per hectare
- Rye, Corn: bushels per acre x 0.6277 = quintals per hectare
- Barley: bushels per acre x 0.5380 = quintals per hectare
- Oats: bushels per acre x 0.3587 = quintals per hectare

#### 1 Tonne (metric ton) Equals
- 1 cubic meter of water
- 2204.622 lbs.
- 1,000 kilograms
- 22.046 hundredweight
- 10 quintals
- 36.7437 bushels of Wheat or Soybeans
- 39.3683 bushels of Corn, Sorghum or Rye
- 45.9296 bushels of Barley Grain
- 68.8944 bushels of Oats
- 4.5930 US bales of Cotton

#### Ethanol
- 1 bushel of corn = 2.7 gallons of Ethanol
- Wet Mill: 1 bushel of corn = 9.5-10 liters of ethanol
- Dry Mill: 1 bushel of corn = 9.8 liters of ethanol

#### Crude Oil
- 1 barrel = 42 US gallons = 34.97 UK (imperial) gallons
- = 0.136 tonne (approx)
- 1 barrel per day (b/d) = 50 tonnes per year (approx)
- Crude Oil Dollars per Barrel / 5.826 = Dollars per Mmbtu

#### Natural Gas Conversion Factors
- 1 Cubic Feet (cf) = 1,031 BTU
- 1 Cubic Meter = 35.315 Cubic Feet
- Deca Therm = 10 Therm = 1 Million Btu = 1 MMBtu
- 1,000 cf = 1 MMBtu = 0.0001 Nat Gas NYMEX Contract
- 10 Million cf = 10,000 MMBtu = 1 Nat Gas NYMEX Contract
- 1 Billion cf = 1,000,000 MMBtu = 100 Nat Gas NYMEX Contracts

#### U.S. Liquid Volumes and Conversions
- 1 ounce = 1.8047 cubic inches = 29.6 milliliters
- 1 cup = 8 ounces = 0.24 liter = 237 milliliters
- 1 pint = 16 ounces = 0.48 liter = 374 milliliters
- 1 gallon = 4 quarts = 231 cubic inches = 3.785 liters
- = 8.345 lb
- Gallons/1405.88 = Metric Tonnes
- 1 liter = 1.0567 quarts = 1,000 milliliters = 1,000 grams
- 1 milliliter = 0.033815 fluid ounce
- 1 liter = 33.814 fluid ounces
- 1 imperial gallon = 277.42 cubic inches = 1.2 US Gall.
- = 4.546 Liters

#### Fertilizer
- 34 gigajoules natural gas makes 1 tonne anhydrous ammonia
- 1 tonne anhydrous ammonia
- 1 Nat Gas NYMEX contract makes 298.53 tons anhydrous ammonia
- 33,500 cubic ft nat gas makes 1 ton anhydrous ammonia
- 1 million BTU's = 1.054615 gigajoule

#### Orange Juice
- 1 metric ton of 65 degree brix = 344.8 gallons at 42 degree brix
- 1 metric ton of 65 degree brix = 1,405.88 gallons at SSE
Area Measurements
1 acre = 43,560 square feet = 0.040694
1 hectare = 2.4710 acres = 10,000 square meters
640 acres = 1 square mile = 259 hectares

Water
1 liter weighs 1 kilogram
1 cubic meter weighs 1 tonne
1 UK gallon weighs 10.022 lbs.
1 US gallon weighs 8.345 lbs.

Cotton Bales
US = 480 lb (the statistical net bale used by
Brazil = 397 lb (metric bale = 180 kg)
India = 392 lb (metric bale = 170 kg)

Precious Metals
24 carat implies pure gold
1 metric carat = 200 milligrams

Temperature
-40 degrees F = -40 degrees C
32 degrees F = 0 degrees C
59 degrees F = 15 degrees C

1 metric ton = 2204.622 lbs
Florida Box = 90 lbs
Texas Box = 85 lbs
California & Arizona Boxes = 75 lbs
Brazil 40.8 kg Box = 91.4 lb

Extraction Rates
100 Grain = 72 Bread Flour
100 Raw Sugar = 92 Refined Sugar
100 Paddy Rice = 65 Milled Rice
100 Milk = 4 Butter
1 ton Barley = 105 Proof Gallon of Whisky