WEIGH IT OUT

This is a table published by the Wisconsin Golf Course Superintendents Association in its newsletter which every superintendent should keep within easy reach. Any man who says "Who Needs It?" — that he has all this stuff committed to memory — has got to be kidding.

VOLUME

1 liter = 1.056 qts.
1 gallon = 281 cu. in. or .1337 cu. ft.
1 gallon weighs 8.33 pounds.
1 million gallons = 3.0689 acre feet.
1 cu. ft. = 1728 cu. in. or 7.48 gal.
1 cu. ft. weighs 62.4 pounds.
1 g.p.m. = .00223 cu. ft./ sec. or 1440 gal./day.
1 m.g.d = 1.547 cu. ft./sec. or 695 gal./min.
1 cu. ft./sec. = 7.48 gal./sec. or 448.8 g.p.m. or 646,272 g.p.d. or .992 Acre inch/hr.
1 acre inch/day requires 18.7 g.p.m. cont. flow.
1 cu. ft. = 1,728 cu. in.
1 cu. yd. = 27 cu. ft.
1 Acre ft. = 1,613 cu. yds.
1 sq. yd. = 9 sq. ft.
1 Acre = 4,840 sq. yds.
1 Acre = 43,560 sq. ft.
1 pt. = 16 oz.
1 qt. = 32 oz.
1 gal. = 128 oz.
1 oz./1,000 = 2.72 pts./Acre.
1 gal./1,000 sq. ft. = 43.6 gal./Acre.

AREA

Circumference of a circle C = dx3.1416.
Dia. of a circle D = cx.3183.
Area of a circle A = d^2 x .7854 or
A = r^2 x 3.1416.
Area of a rectangle A = L x W.
Area of a Triangle A = Base x ½ Perpendicular height.
Area of Parallelogram A ½ Base x Height.
Volume of tanks V = d^2 x L.
Volume of cylinder in gals. V = d^2 x L x .0034.
1 mile = 1,760 yds.
1 mile = 5,280 ft.
1 rod... = 16½ ft.
1 Acre = 43,560 sq. ft.
1 sq. ft. = 144 sq. inches.

WEIGHT

1 pound = 453.6 grams.
1 long ton = 2240 pounds.
1 oz./1,000 sq. ft. = 2.72 pounds/Acre.
1 pound/1,000 sq. ft = 43.6 pounds/Acre.
100 pounds/Acre = 2.3 pounds/1,000 sq. ft.

TEMPERATURE

Cent. Temperature 5/9 (F − 32).
Farenheit Temp. 9/5 (C + 32).

FERTILIZERS

Ammonium nitrate, ammonium sulphate, potasium chloride, sodium nitrate.
435 #/ A or 10 #/1,000.
110#/A or 2½#/1,000.
Ground limestone, ground dolomitic limestone or potassium sulphate.
870#/A or 20#/1,000.
280/#A or 6½#/1,000.
Amonium phosphate, mixed fertilizers (10-10-10), etc.
300#/A or 7#/1,000.
50#/A or 18 oz./1,000.
Urea.
44#/A or 1#/1,000.
Activated sewerage sludge or ureaform.
50#/A or 15#/1,000.
150#/A or 3½#/1,000.
Hydrated lime.
1,100#/A or 25#/1,000.
220#/A or 5#/1,000.

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WHO'S A WINDY CITY?

Prior to World War I the U.S. Weather Bureau office in Chicago was located on the top floor of the Board of Trade Building where wind velocities are always greater than they are at ground level; consequently as reports were daily recorded it was found that the wind in the Chicago area always seemed to be blowing at a greater velocity than in surrounding cities; hence the misnomer "The Windy City".

The average wind in the Chicago area taken from the official figures at the Midway Weather Bureau Station is 10.7 miles per hour, the highest wind ever recorded was 87 miles per hour, but New York and Buffalo greatly exceed this for both average 14.7 miles per hour, the highest wind in New York was 113 miles per hour which is 26 m.p.h. more than Chicago's highest. Next in average wind velocities comes Cleveland with 12.7 m.p.h., then comes Toledo, Minneapolis and St. Louis — all ahead of Chicago in average wind velocities.

So the next time you hear someone making that crack about Chicago being the Windy City tell them to go and fly a kite — but for real good results tell them to fly it in either New York, Buffalo, Toledo, Minneapolis or St. Louis where they really have winds.

C. E. (Scotty) Stewart

FREE ENGINEERING CAN BE COSTLY $ $

Golf course superintendents who accept "free" engineering services offered by equipment suppliers may pay a high price for it. Free engineering services is really an illusion and can hardly be considered free for the costs must be recovered somehow by the supplier, usually they are concealed in the orders that are won. This illusion encourages practices that inflate costs and wastes engineering man-power already in short supply.

Superintendents should realize that the manufacturer's representative is primarily concerned with selling a product. Any assistance offered is usually aimed at closing a sale, under these circumstances a manufacturer's representative can hardly be completely objective.

Any superintendent planning a major capital expenditure should look at all the factors objectively through the eyes of club member engineers or a consulting engineer. After a thorough evaluation a recommendation should be made to the Board of Directors whether to proceed at all, and, if so, the best course to follow. Only then can equipment be selected that is best suited for the purpose, and balanced design developed that gives consideration to first costs as well as subsequent operating and maintenance costs.

C. E. (Scotty) Stewart