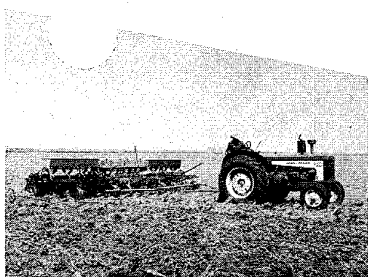


CONSERVATION AGRONOMY TECHNICAL NOTES

PASTURELAND

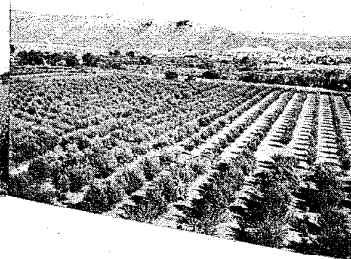
ORCHARD



CROPLAND



HAYLAND



U. S. DEPARTMENT OF AGRICULTURE

NEW MEXICO

SOIL CONSERVATION SERVICE

NOTE NO. 16

December 9, 1971

RE: WEIGHTS, MEASURES AND CONVERSION FACTORS

The attached Agronomy Technical Note contains some units of measure, approximate net weight and approximate units per ton for quite a number of field, vegetable, fruit, pasture and hay crops.

The standard bushel used in the United States contains 2,150.42 cubic inches. However, some food crops such as apples, potatoes, sweet potatoes, peaches, green beans, green peas, spinach, etc., are sometimes sold on the basis of a heaped bushel which contains 2,747.7 cubic inches. A gallon contains 231 cubic inches; the cranberry barrel 5,826 cubic inches; and the standard fruit and vegetable barrel 7,056 cubic inches.

Measurements for crates and boxes are inside dimensions.

AO
Regional Agronomist, Portland
NMSO Records Mgt - 1

Weights, Measures and Conversion Factors

Crop	Unit	Approximate Net Weight (Pounds)	Approximate Unit/tons
Alfalfa Seed	Bushels	60	33.3
Apples, Fresh	Bushel	48	41.7
	Box 10½x11½x18"	44	45.4
	Barrel	140	14.3
Apples, Dried	Bushel	24	83.3
Apricots	Bushel	48	41.7
	Western Crate 4½x16x16 1/8"	22	90.9
Artichokes	Globe Box 9 3/4x11x20 5/8"	40	50.0
	Jerusalem Bushel	50	40.0
Asparagus	Crate(1doz,2-1b bunches)	24	83.3
Avocados	California Box 3 3/4x13½x16 1/8"	13	153.8
	Florida Box 4 3/16x13½x16 1/8"	12-15	166.6-133.3
Bananas	Bunch (8-9)	45-65	44.4- 30.8
Barley	Bushel	48	41.7
Beans			
Lima, Dry	Bushel	56	35.7
	Other, Dry	Bushel	60
	Sack	100	20.0
Lima, Unshelled	Bushel	32	60.6
Snap	Bushel	30	66.6
White	Bushel	60	33.3
Beets			
Without Tops	Bushel	52	38.5
	Bunched Western Crate 13x18x21 5/8"	70	28.6
Bernuda Grass Seed	Bushel	45	44.4
Berries: Frozen Pack:			
Without Sugar	50 Gallon Barrel	380	5.3
3 - 1 pack	50 Gallon Barrel	425	4.7
2 - 1 pack	50 Gallon Barrel	450	4.4
Blackberries	24 Quart Crate	36	55.5
Bluegrass Seed	Bushel	14	142.8

Crop	Unit	Approximate Net Weight (Pounds)	Approximate Unit/tons
Bran	Bushel	20	100
Broomcorn	(6 bales per ton) Bale	333	6.
Broomcorn Seed	Bushel	44-50	45.4-40
Bromegrass Seed	Bushel	14	142.9
Buckwheat	Bushel	48-52	41.7-38.5
Bulbs	(Assumed Average) Bushel	60	33.3
Butter	Tub	63	31.8
Cabbage	1½ Bushel Hamper	45-50	44.4-40
	Western Crate - 13 x 18 x 21 5/8"	80	25
Cabbage Seed	(Assumed Average)	50	40
Cantaloupes (Arizona-Yuma Project) Standard 45	Crate	56,68,78	35.7,29.4,25.6
	12 x 12 x 22 1/8"	60	33.3
Cantaloupe	1½ Bushel	60	33.3
Carrots Without Tops	Bushel	50	40
	Bunched Western Crate 13 x 18 x 21 5/8"	75	26.6
Carrots (Arizona-Yume Project)	Crate	87	22.9
	Bushel	50	40
Carrot Seed	(Assumed Average) Bushel	50	40
Castor Beans	Bushel	46	43.5
Castor Oil	Gallon	8	250
	(Actual Weight Varies According to Temperature Condition)		
Cauliflower	1½ Bushel Crate	37	54.1

Crop	Unit	Approximate Net Weight (Pounds)	Approximate Unit/Tons
Celery:	2/3 Crate 22x16x20 3/4"	65	30.8
	1/2 Crate 22x16x20 3/4"		
Cherries:			
With Stems	Bushel	56	35.7
Without Stems	Bushel	64	31.3
Without Stems Flat Box	3 3/4x11 1/8x14 1/8"	15	133.3
Clover Seed	Bushel	60	33.3
Corn:			
Ear, Husked(average)	Bushel	70	28.6
Shelled	Bushel	56	35.7
Green, Sweet	Bushel	35	57.1
Meal	Bushel	50	40.0
Oil(Varies by Temperature)	Gallon	7.7	259.7
Sirup	Gallon	11.75	170.2
Cotton:			
	American Bale (Gross)	500	4.0
	American Bale (Net)	478	4.2
Cotton Seed (Legal Weight varies in some states)	Bushel	32	60.6
Cotton Seed Oil (Varies by temperature)	Gallon	7.7	259.7
Cowpeas	Bushel	60	33.3
Cranberries	Barrel	100	20.0
	1/4 Barrel Box 9 1/2x10 1/2x15"	25	80.
Cream (40% butterfat)	Gallon	8.39	238.4
Cucumbers	Bushel	48	41.7
Cucumber Seeds (Assumed Average)	Bushel	50	40
Dewberries	24 Quart Crate	36	55.5
Dill Seed (Assumed Average)	Bushel	50	40
Eggplant	Bushel	33	60.6
Eggs, Average Size	Case, 30 dozen	45	44.4

Crop	Unit	Approximate Net Weight (Pounds)	Approximate Unit/Tons
Escarole (endive)	1½ Bushel Hamper	37	54.1
Figs, Fresh			
Box, Single Layer-1 3/4x11x16 1/8"		6	333.3
Flaxseed	Bushel	56	35.7
Flour, Various	Barrel=	196	1 oz.1
Grain Sorghums	Bushel	56&50	35.7,40
Grapefruit:			
Florida	12x12x24"	80	25
California	11½x24"	68	29.4
(Ariz-Calif-Yuma Project-Box, Field		40	50
(Ariz-Calif-Yuma Project-Box, Loose & Place Packed)		50	40
Grapes	Bushel	48	41.7
Eastern	12 Quart Basket	18	111.1
Eastern-Lug Box-5 3/4x13½x16 1/8"		28	71.4
Eastern-4 Basket Crate-4 3/4x16x16 1/8"		20	100
Western-Keg(2,642 Cubic Inches)		32	60.6
(About 13 pounds of sawdust are required to pack 32 pounds of grapes in a keg, thus making a total weight of 45 pounds)			
Box, Sawdust pack - 7 3/4x15x13½x16 1/8		34	58.8
Hempseed	Bushel	44	45.4
Hickory Nuts	Bushel	50	40
Honey	Gallon	12	166.6
Honey Ball Melons	Equiv. Standard Cantaloupe	60	33.3
	Crate		
Honey Dew Melons	Equiv. Standard Honey Dew		
	Crate	35	57.1
Hops	Bale, Gross	200	10
Horseradish Roots	Bushel	35	57.1
	Barrel	100	20
Hungarian Millet Seed	Bushel	48&50	41.7, 40
Kafir	Bushel	56&50	35.7, 40
Kale	Bushel	18	111.1
Kapok Seed	Bushel	35-40	57.1, 50

Crop	Unit	Approximate Net Weight (Pounds)	Approximate Unit/Tons
Lard	Tierce	375	5.3
Lemons, California	Box 24	79	25.3
Lentils	Bushels	60	33.3
Lettuce, Western Crate 13x18x21 5/8"		70	28.6
Ariz-Yuma Project	Packed Crate	76	26.3
Ariz-Yuma Project	Field Crate	70	28.6
	Carton	45	44.4
Lettuce Seed (Field, Yuma Project)	Bushel	28	71.4
Limes	Box 12x12x24"	80	25
Linseed Oil (Varies by Temperature)	Gallons	7.7	259.7
Maize	Bushel	56	35.7
Malt	Bushel	34	58.8
Maple Sirup	Gallon	11	181.8
Meadow Fescue Seed	Bushel	24	83.3
Milk (Specific Gravity 1.032)	Gallon	8.6	231.4
Millet	Bushel	48-50	41.7, 40
Millet Seed, Common	Bushel	50	40
Hungarian	Bushel	48&50	41.7, 40
Molasses	Gallon	12	166.6
Musk Melons, Standard 45 Crate 12x12x22 1/8"		60	33.3
Mustard Seed	Bushel	58-60	34.5, 33.3
Oats	Bushel	32	60.6
Olives	Lug Box 5 3/4x13 1/2x16 1/8"	25-32	80, 60.6
Olive Oil (Varies by Temperature)	Gallon	7.6	260.5
Onions, Dry	Sack	100	20
	Sack	50	40
	Bushel, Late	57	35.1
	Bushel, Early	50	40

Crop	Unit	Approximate Net Weight (Pounds)	Approximate Unit/Tons
Onions, Green, Bunched	Crate 13x18x21 5/8"	50-55	40,36.6
Onion Seed (Assumed Average)	Bushel	50	40
Onion Sets	Bushel	28-32	71.4,60.6
Oranges:			
Florida	Box 12x12x24"	90	22.2
California	Box 11 1/2x24"	77	25.9
Ariz-Calif(Yuma Project)	Box (Packed)	70	28.6
Fla. & Other States	Box (Packed)	83	24.1
Orchard Grass Seed	Bushel	14	142.9
Palm Oil (Varies by Temperature)	Gallon	7.5	266.6
Parsnips	Bushel	50	40
Parsnip Seed (Assumed Ave.)		40	50
Peaches, Fresh	Bushel	48	41.7
Fresh	Lug Box 5 3/4x13 1/2x16 1/8"	20	100
Dried	Bushel	33	60.6
Peanut Oil (Varies by Temperature)	Gallon	7.7	259.7
Peanuts, Unshelled:			
Virginia Type	Bushel	22	80.9
Runners, Southeastern	Bushel	28	71.4
Spanish	Bushel	30	66.6
Pears, California	Bushel	48	41.7
Other	Bushel	50	40
Western	Box 8 1/2x11 1/2x18"	46	43.5
Peas:			
Green, Unshelled	Bushel or Hamper	30	66.6
Dry	Bushel	60	33.3
Peppers			
Chili-Ristra, Red 5 Feet Long		5-7	400,285.7
Chili, Fresh Green (Assumed Ave.)	Bushel	20	100
Perilla Seed	Bushel	37-40	54.1,50
Pineapples	Crate 12x10 1/2x33"	70	28.6

Crop	Unit	Approximate Net Weight (Pounds)	Approximate Unit/Tons
Plums & Prunes	Bushel	56	35.7
	Crate 4½x16x16 1/8"	20	100
	Suitcase Lug 3½x11x18"	16	125
Popcorn:			
On Ear	Bushel	70	28.6
Shelled	Bushel	56	35.7
Poppy Seed	Bushel	46	43.5
Potatoes, Irish	Bushel	60	33.3
Irish	Barrel	165	12.1
Quinces	Bushel	48	41.7
Radish Seed (Assumed Ave.)	Bushel	40	50
Rapeseed (Assumed Ave.)	Bushel	50	40
Raspberries	24 Quart Crate	36	55.5
Redtop Seed	Bushel	14	142.9
Refiner's Sirup	Gallon	11.72	170.1
Rice:			
Rough	Bushel	45	44.4
	Bag	100	20
	Barrel	162	12.4
Milled	Pocket or Bag	100	20
Rosin	Barrel, Gross	500	4
Rutabagas	Bushel	56	35.7
Rutabaga Seed (Assumed Ave)	Bushel	50	40
Rye	Bushel	56	35.7
Salt	Bushel	65	30.8
Seed Peas, Smooth	Bushel	60	33.3
Wrinkled	Bushel	56	35.7
Sesame Seed	Bushel	46	43.5
Shallots	Bushel	25	80

Crop	Unit	Approximate Net Weight (Pounds)	Approximate Unit/Tons
Sorgo:			
Seed	Bushel	50	40
Sirup	Gallon	11.55	173.1
Soybeans	Bushel	60	33.3
Soybean Oil (Varies by Temperature)	Gallon	7.7	259.7
Spelt	Bushel	40	50
Spinach	Bushel	18	111.1
Squash	Bushel		
Straw	Acre	2000	1
Strawberries	24 Quart Crate	36	55.5
	1 Tray	5	400
Sudangrass Seed	Bushel	40	50
Sugar Cane Sirup	Gallon	11.35	176.2
Sunflower Seed	Bushel	24&32	83.3, 60.6
Sweet Potatoes (When Harvested)	Bushel	55	36.3
Tangerines, Florida	½ Strap 6x12x24"	40	50
	Per Whole Box	90	22.2
Timothy Seed	Bushel	45	44.4
Tobacco:			
Maryland	Hogshead	600-800	3.3, 2.5
Flue-Cured	Hogshead	900-1100	2.2, 1.8
Burley	Hogshead	1000-1200	2.0, 1.6
Dark-Air Cured	Hogshead	1000-1250	2.0, 1.6
Virginia-Fire Cured	Hogshead	1050-1350	1.9, 1.5
Kentucky & Tennessee-Fire Cured	Hogshead	1350-1650	1.5, 1.2
Cigar Leaf	Case	250-365	8.0, 5.5
	Bale	150-175	13.3, 11.4
Tomatoes	Bushel	53	37.7
	Lug Box 5 3/4x13 1/2x16 1/8"	32	60.6
	Crate	23	86.9
Truck	6 Bushels	23	86.9

Crop	Unit	Approximate Net Weight (Pounds)	Approximate Unit/Tons
Turnips	Bushel	54	37
Bunched	Crate 13x18x21 5/8"	60-80	33.3
Turnip Seed (Assumed Ave.)	Bushel	40	50
Turpentine	Gallon	7.23	276.5
Velvet Beans (Hulled)	Bushel	60	33.3
Vetch	Bushel	60	33.3
Walnuts	Bushel	50	40
Water, 60 F	Gallon	8.33	240.1
Watermelons	Melon of Average or Medium Size	25	80
Watermelon Seed (Assumed Ave.)	Bushel	50	40
Wheat	Bushel	60	33.3
Various Commodities	Short Ton	2000	
	Long Ton	2240	