Wind

PART II

SECTION D

APPENDIX

The following section contains the Flat Small Grain Equivalent (SGe) charts, a form for use in estimating wind erosion when using the Management Period Method, and the Random Roughness Value Pictures from RUSLE, Ag Handbook 703.

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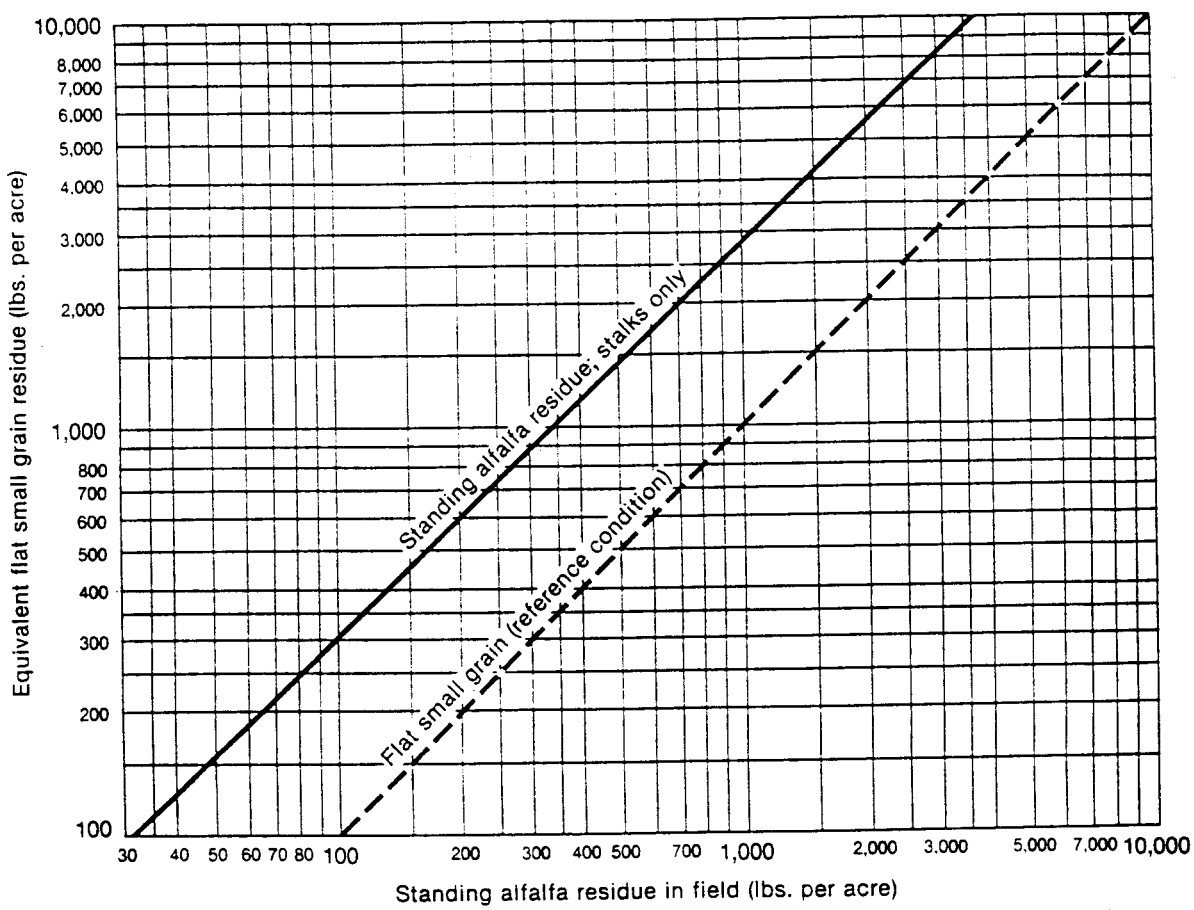
CHART 1

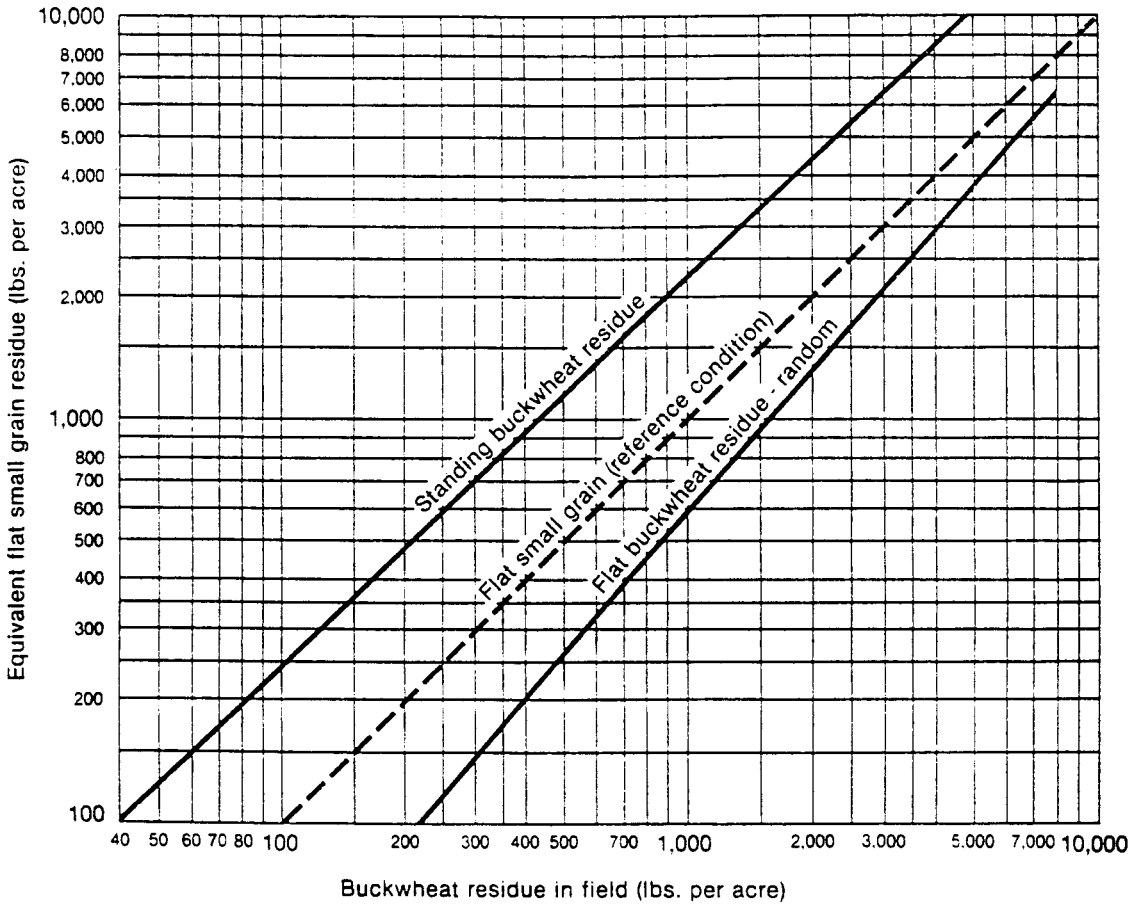
Flat Small Grain Equivalents of Alfalfa Residues



Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.
Source: Unpublished coefficients provided by Leon Lyles, ARS, Wind Erosion Research Unit, Manhattan, KS.

CHART 1

Flat Small Grain Equivalents Buckwheat Residue

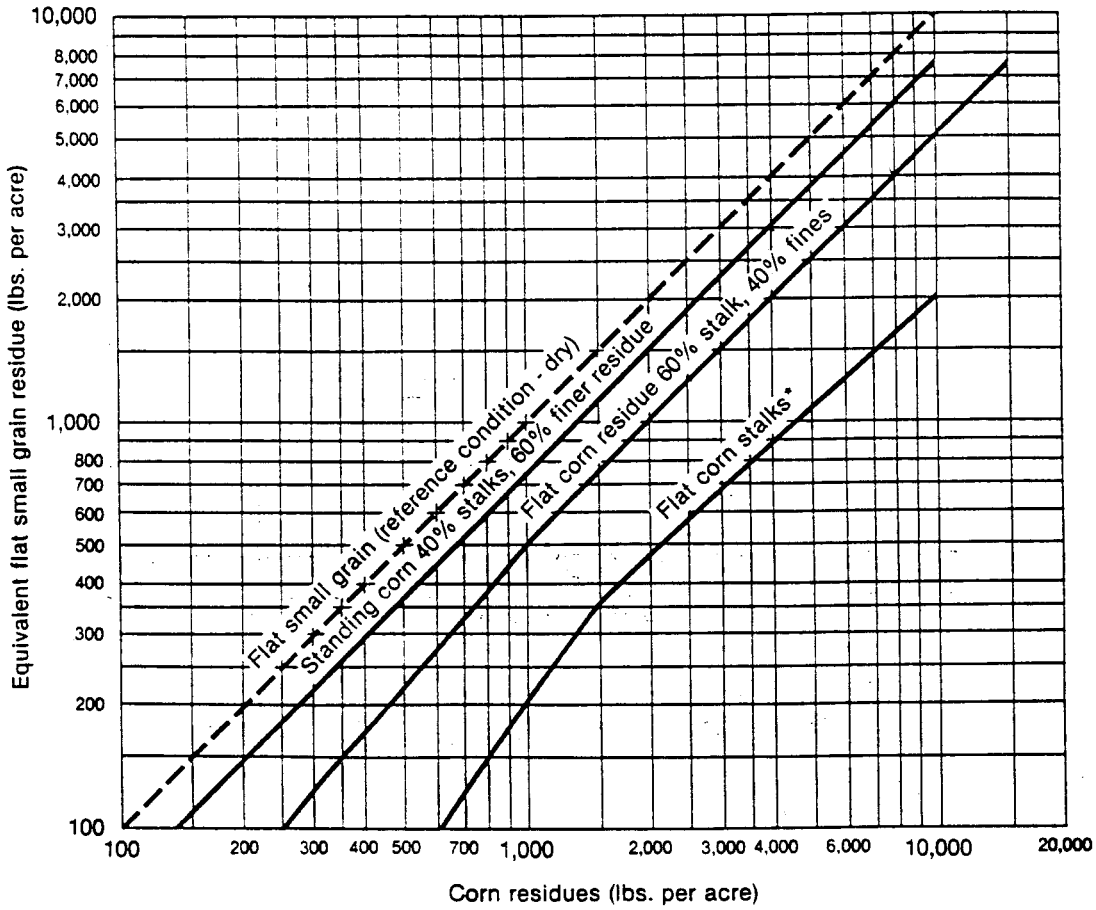


Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.

Source: Best Judgement Estimates by SCS. North Central Agronomists. 11/84.

CHART 1

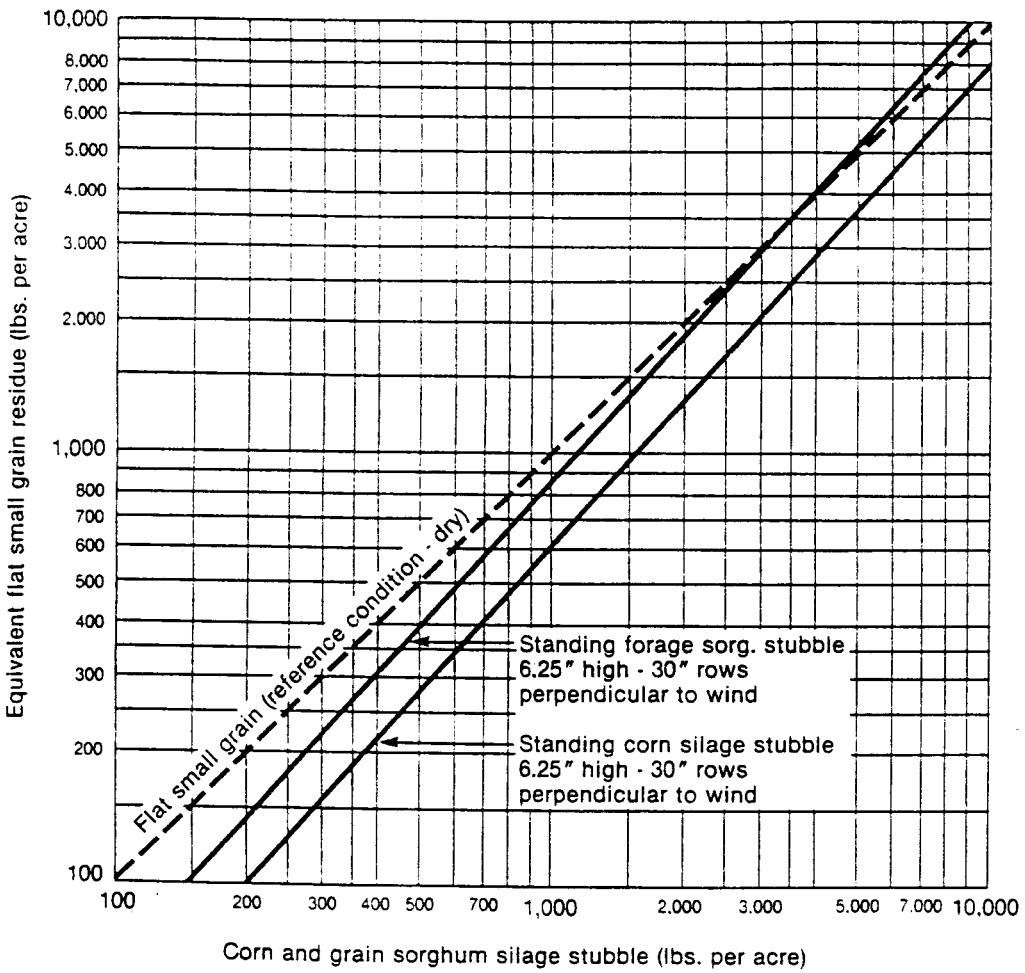
Flat Small Grain Equivalents of Corn Residues



Source*: Lyles and Allison. Trans. ASAE 1981. 24(2): 405-408. (Flat to 2,000 lbs. standing to 3,500 lbs. Extended by SCS.)

CHART 1

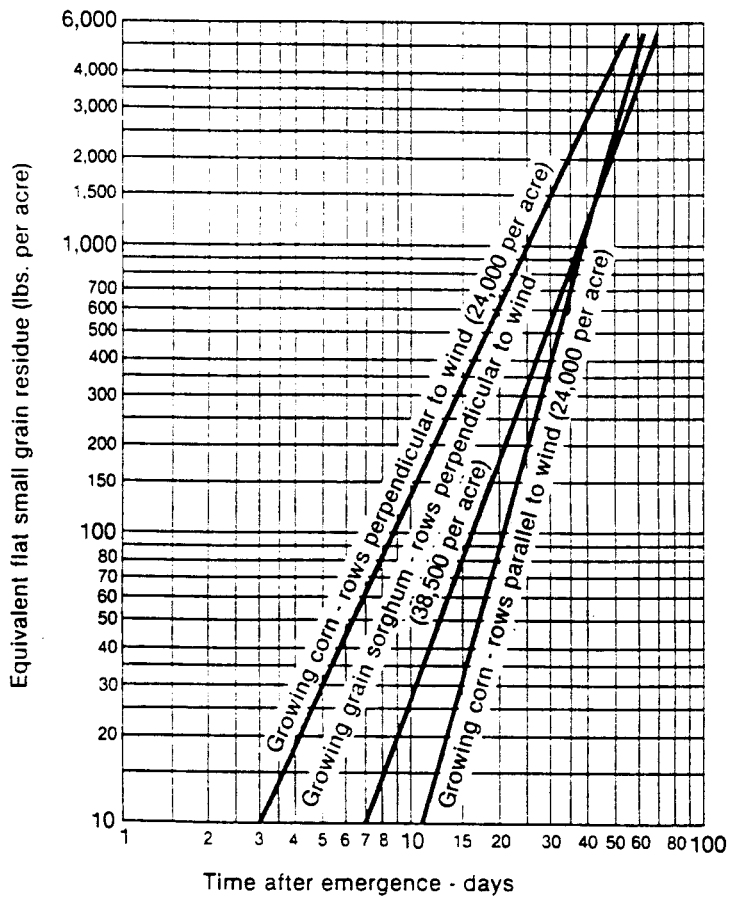
Flat Small Grain Equivalents of Corn and Grain Sorghum Silage Stubble



Source: Lyles and Allison, Trans. ASAE 1981, 24(2): 405-408.
Residue weights are washed, air dried, and placed as described for wind tunnel tests.

CHART 1

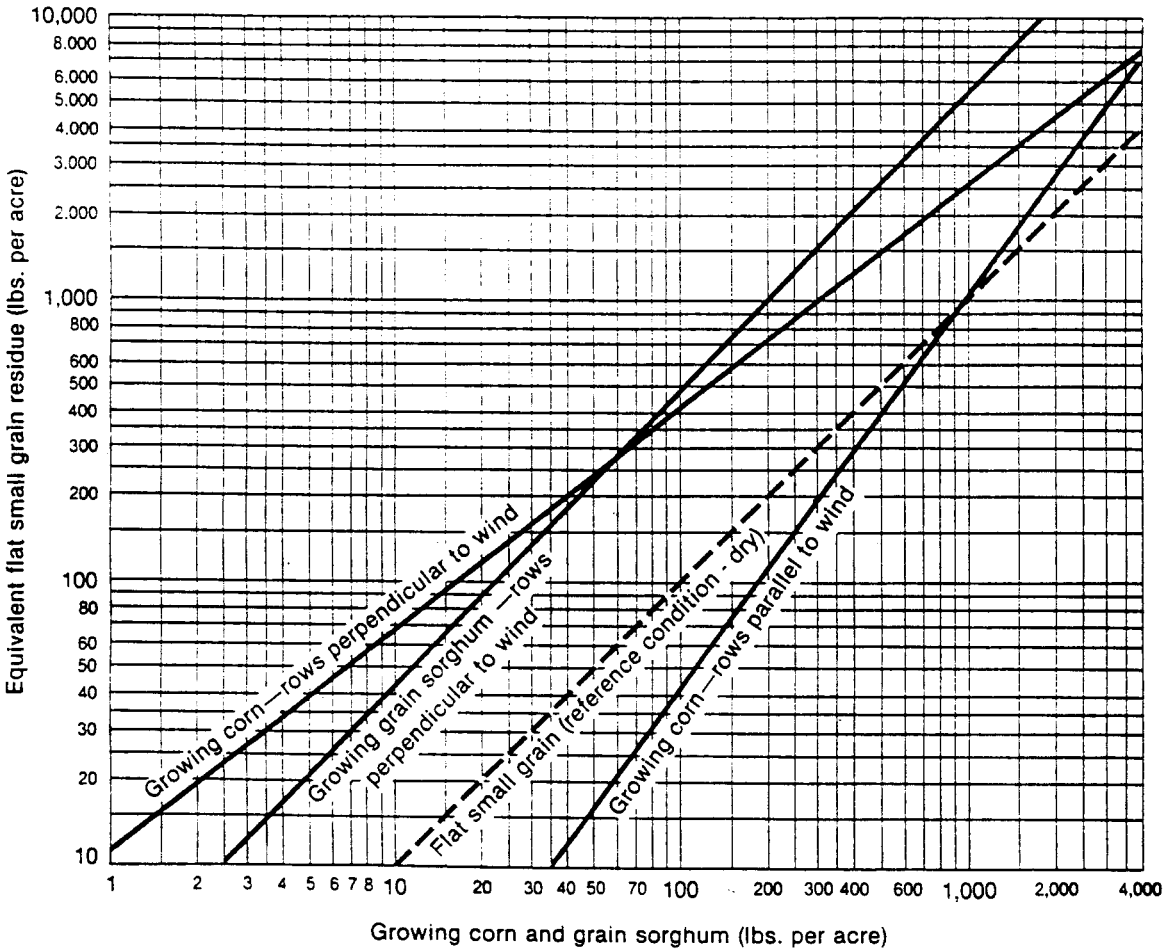
Flat Small Grain Equivalents of Growing Corn and Grain Sorghum, Days After Emergence



Source: Armbrust & Lyles, 1984-unpublished.

CHART 1

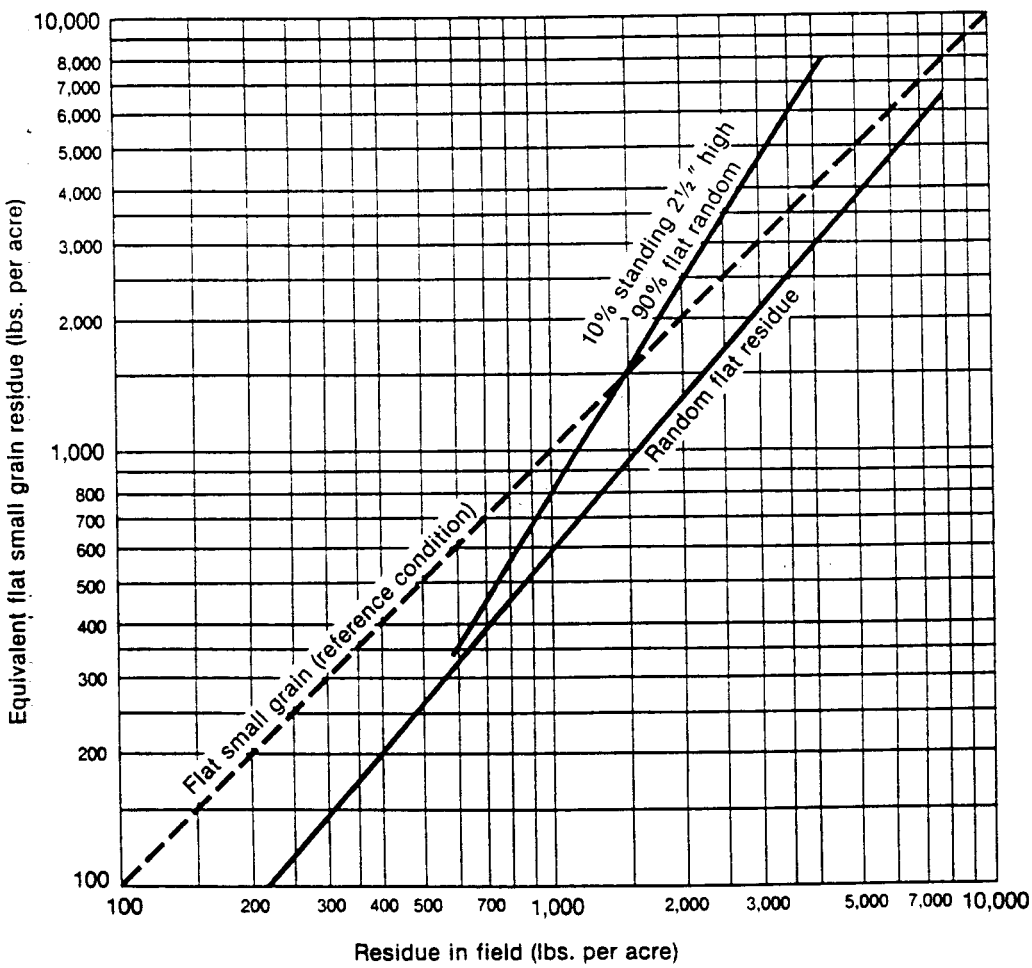
Flat Small Grain Equivalents of Growing Corn and Grain Sorghum



Source: Armbrust & Lyles, 1984 - unpublished

CHART 1

Flat Small Grain Equivalents
Dry Bean, Lentil, *Soybean, & Winter Pea Residues

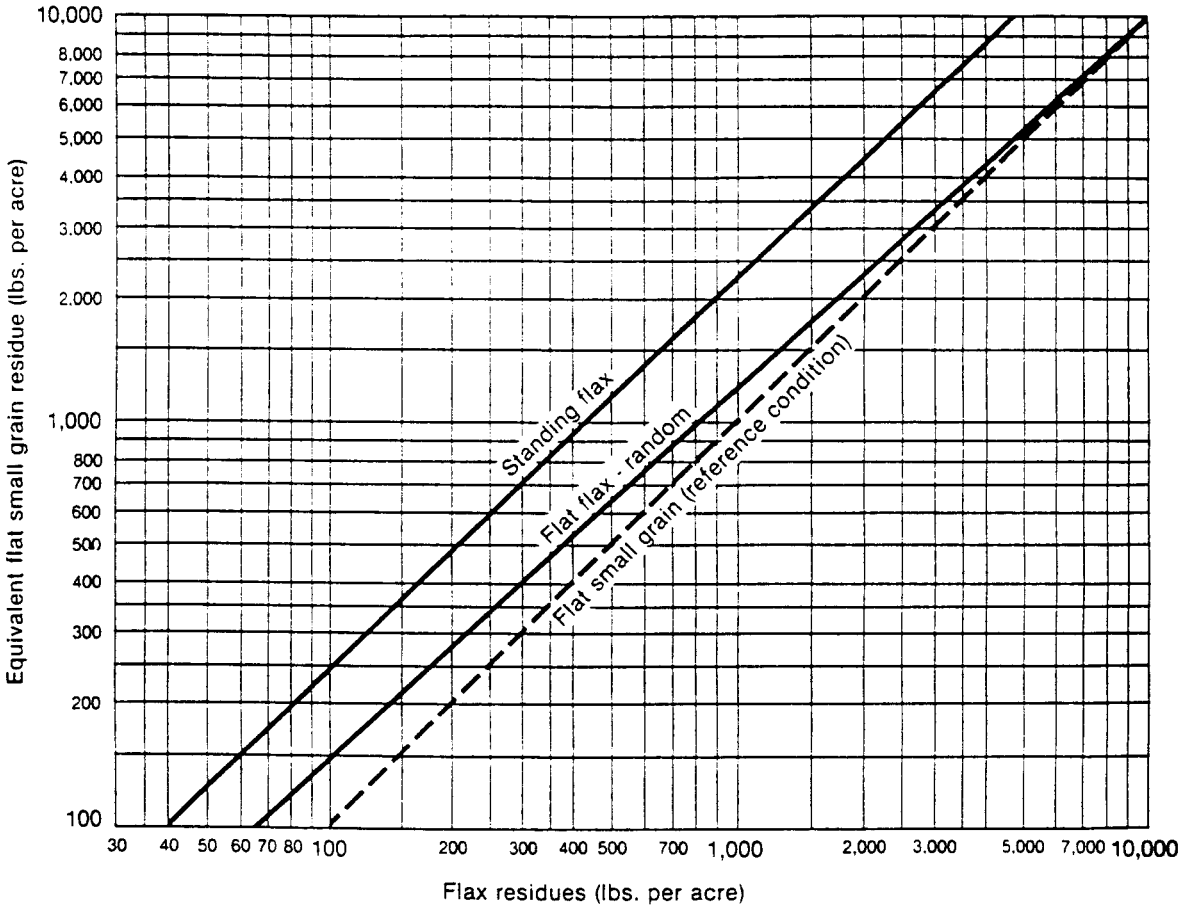


Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.

Source: Best Judgement Estimates by SCS. North Central Agronomists, 11/84.
*Soybeans - Lyles and Allison, Trans. ASAE 1981, 24(2): 405-408.

CHART 1

Flat Small Grain Equivalents of Flax Residues

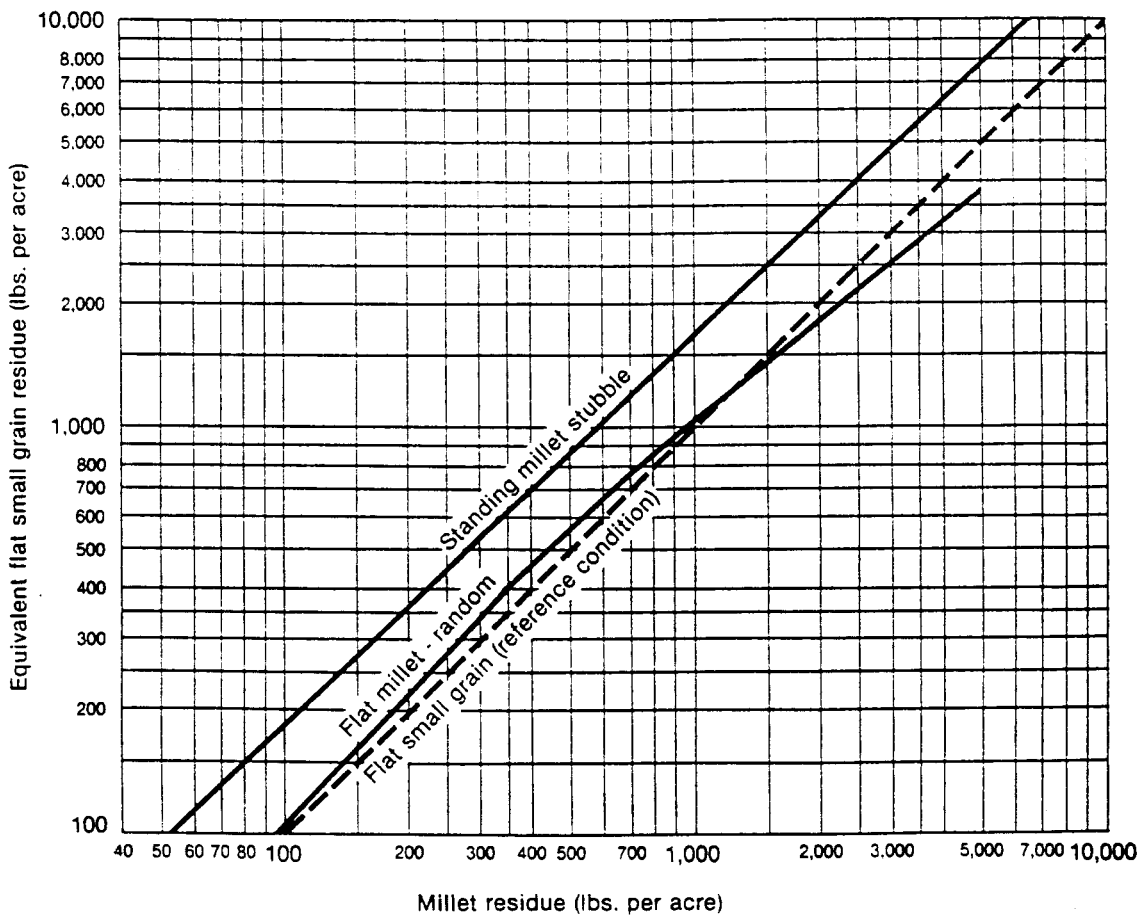


Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.

Source: Best Judgement Estimates by SCS. (North Central Agronomists, 11/84).

CHART 1

Flat Small Grain Equivalents of Millet

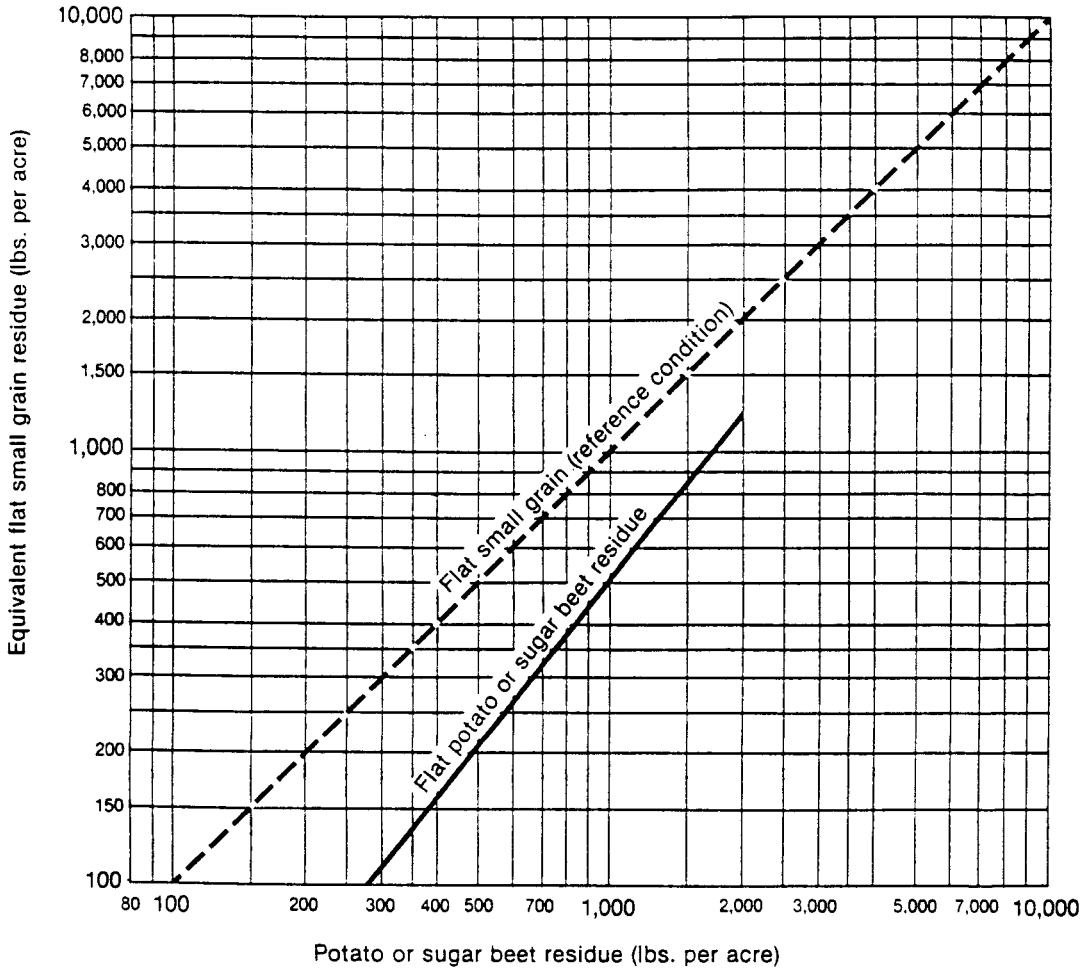


Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.

Source: Leon Lyles, ARS, memorandum, Jan. 25, 1985

CHART 1

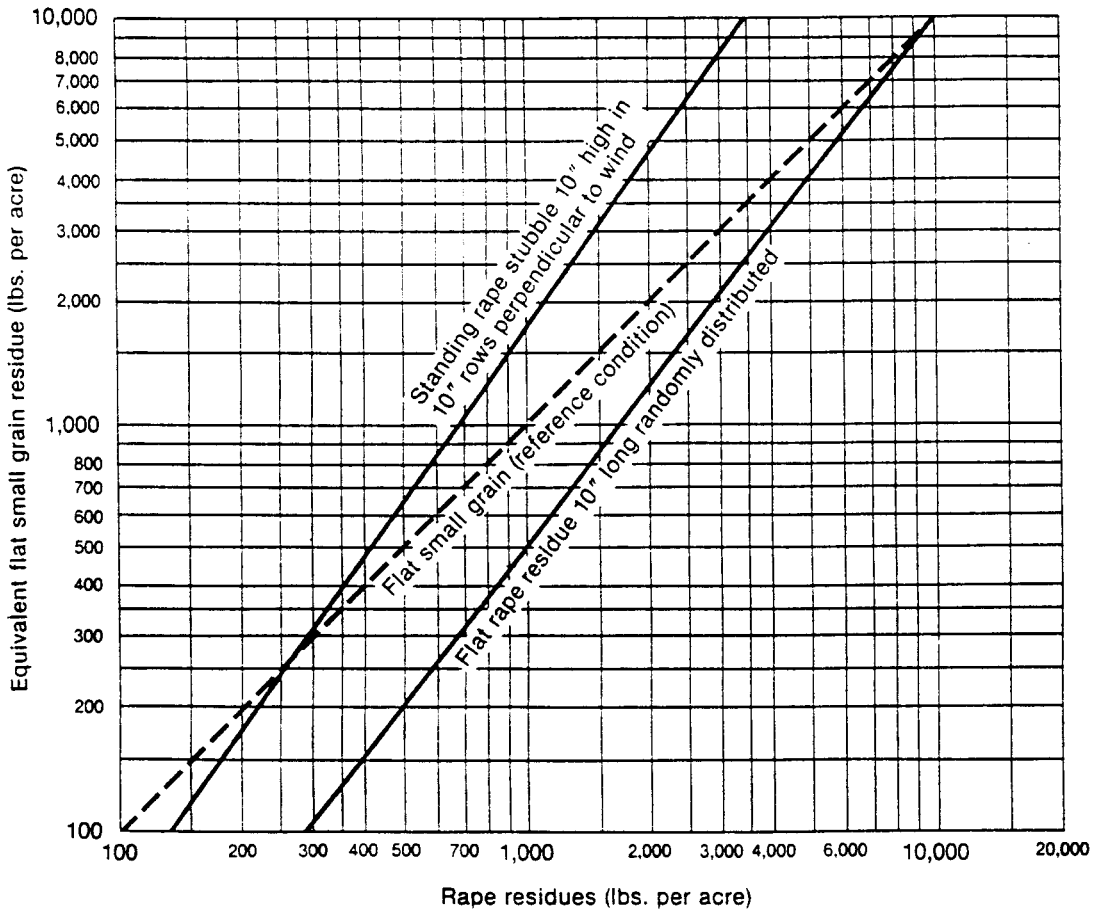
Flat Small Grain Equivalents of Potato and Sugar Beet Residue



Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.
Source: Best Judgement Estimates by SCS, North Central Agronomists, 11/84.

CHART 1

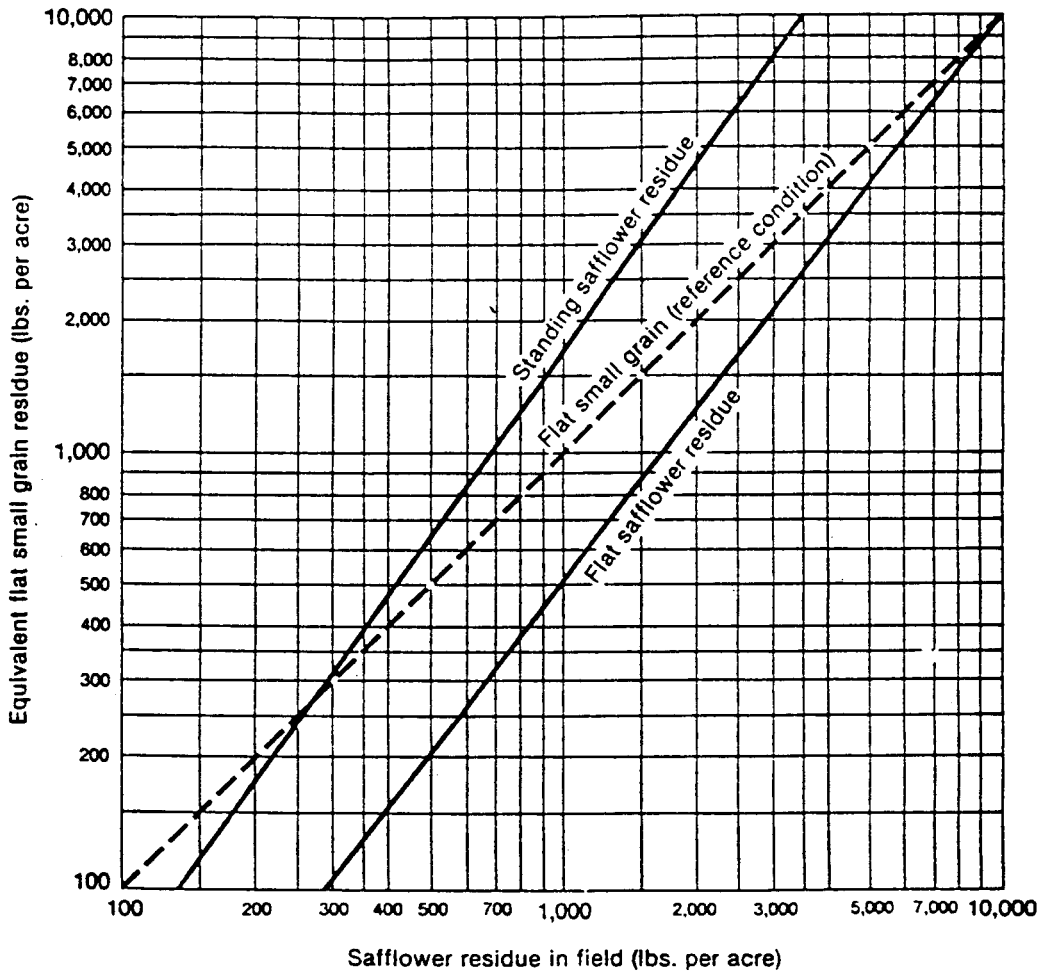
Flat Small Grain Equivalents of Rape Residues



Source: Lyles and Allison, Trans. ASAE 1981, 24(2): 405-408.
Residue wts. are washed, air dried and placed as described.

CHART 1

Flat Small Grain Equivalents Safflower Residue

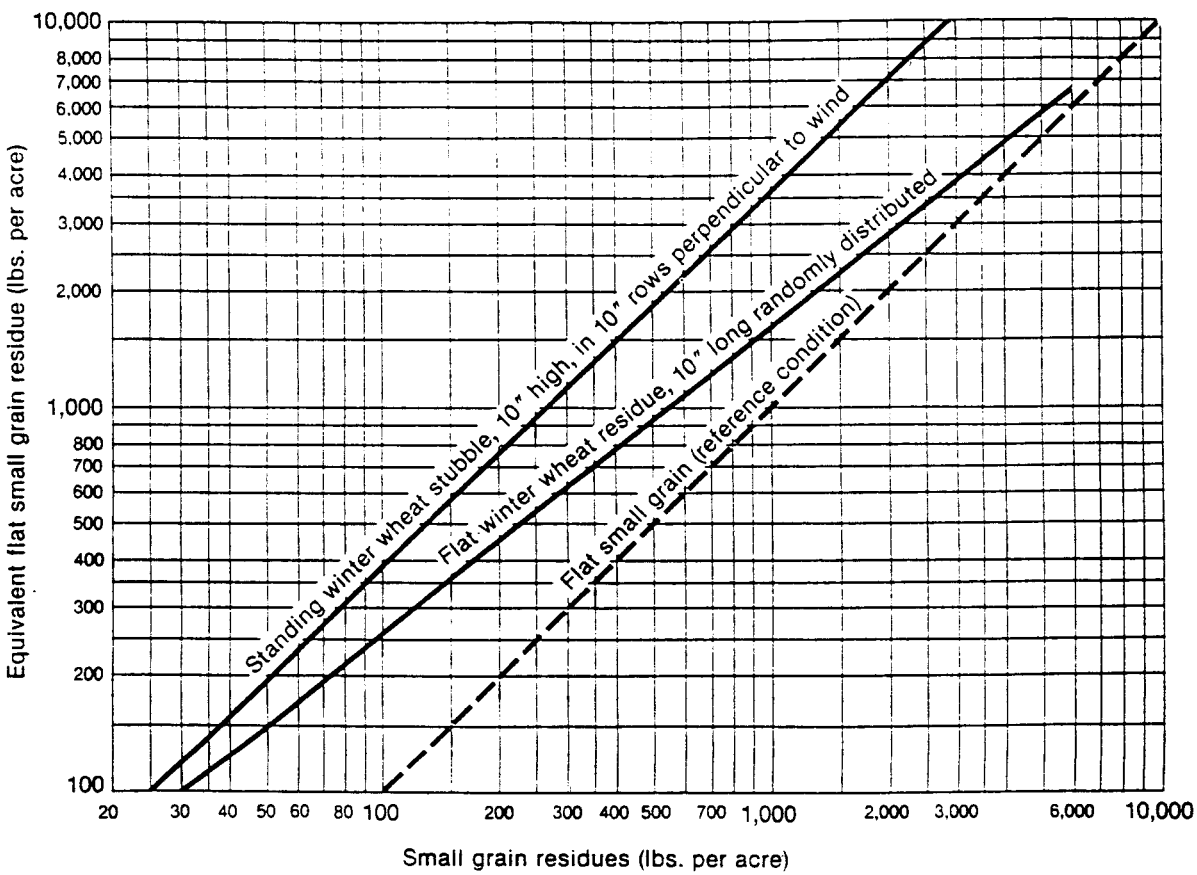


Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.
Source: Best Judgement Estimates by SCS, North Central Agronomists, 11/84.

CHART 1

Flat Small Grain Equivalents of Small Grain Residues

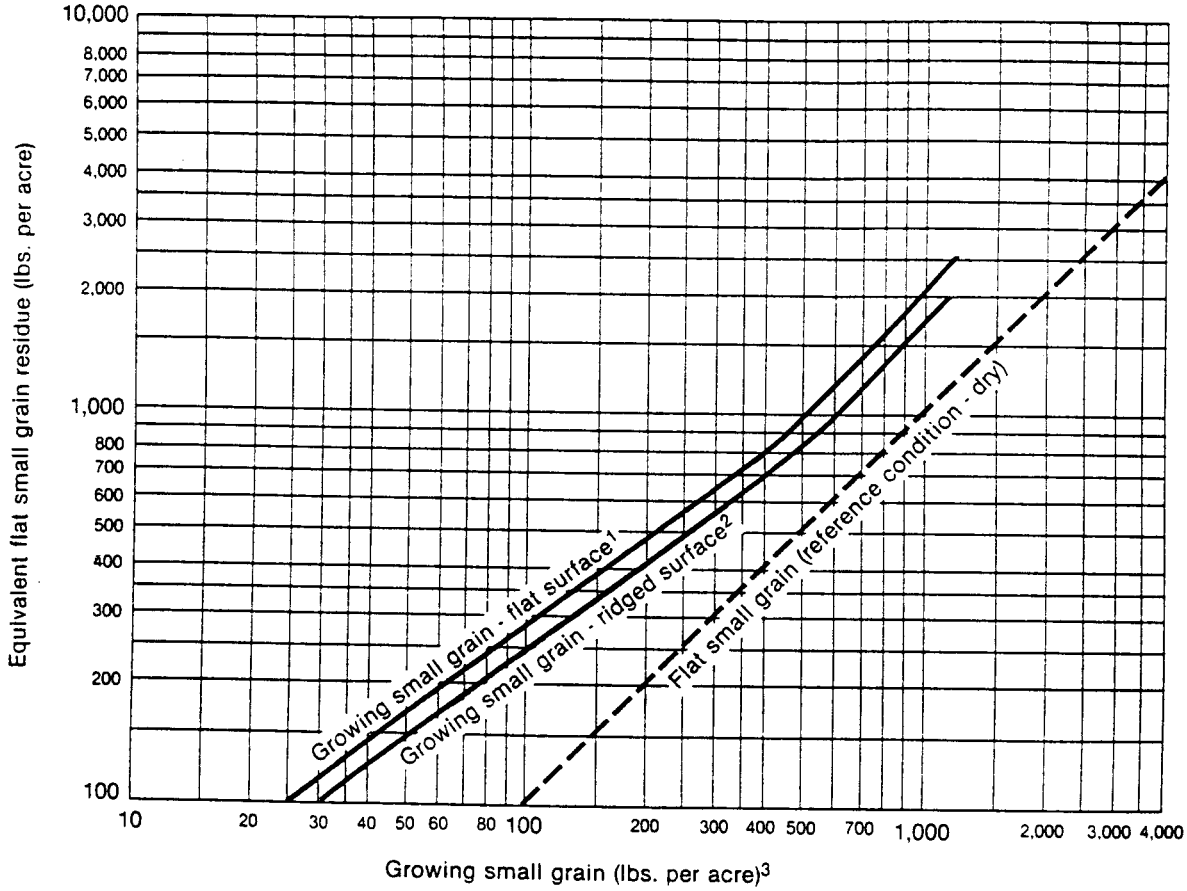
(Use for wheat, barley, rye and oats)



Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.
Source: Lyles and Allison—Trans. ASAE 1981, 24 (2): 405-408.
Residues are washed, air dried, and placed as described for wind tunnel tests.

CHART 1

Flat Small Grain Equivalents of Growing Small Grain



Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.

Sources

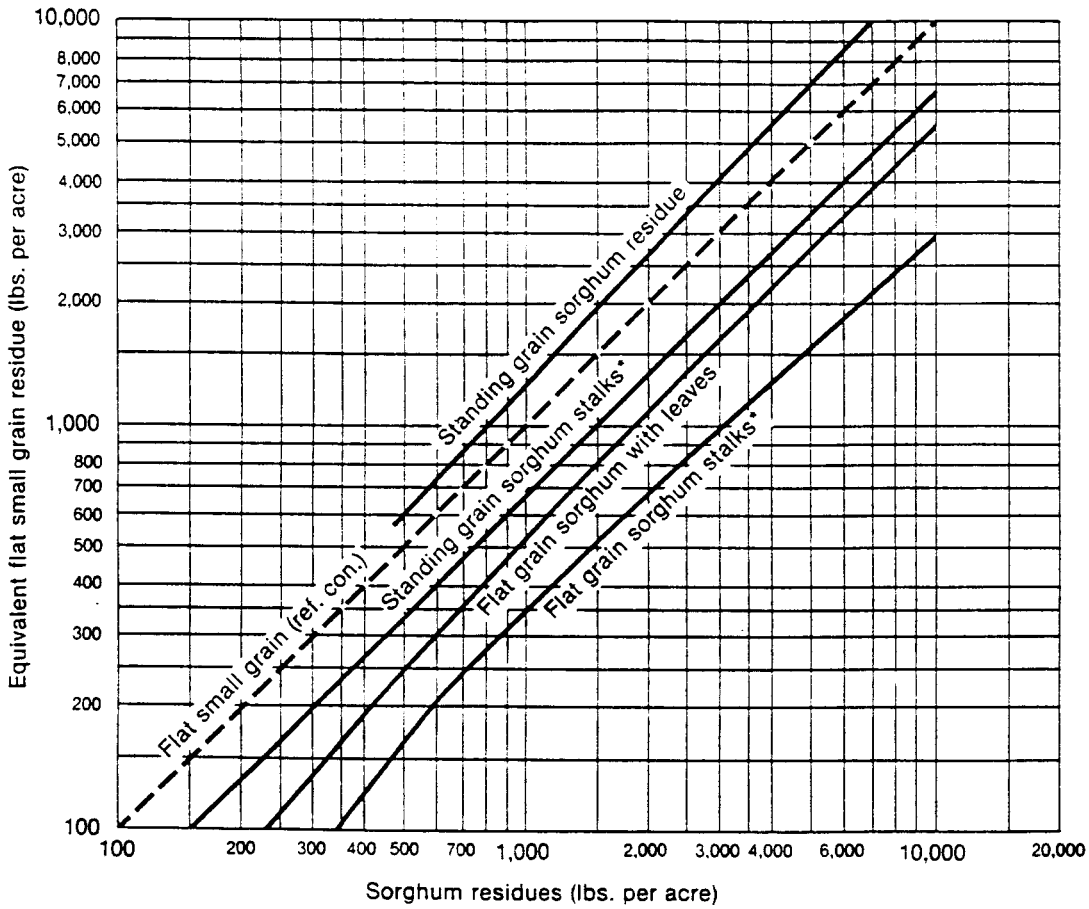
[1] Siddoway, F.H., W.S. Chepil, and D.V. Armbrust 1965

[2] Estimates by Best Judgement of SCS Personnel.

[3] Air-dry weights of growing winter wheat from emergence to winter dormancy.

CHART 1

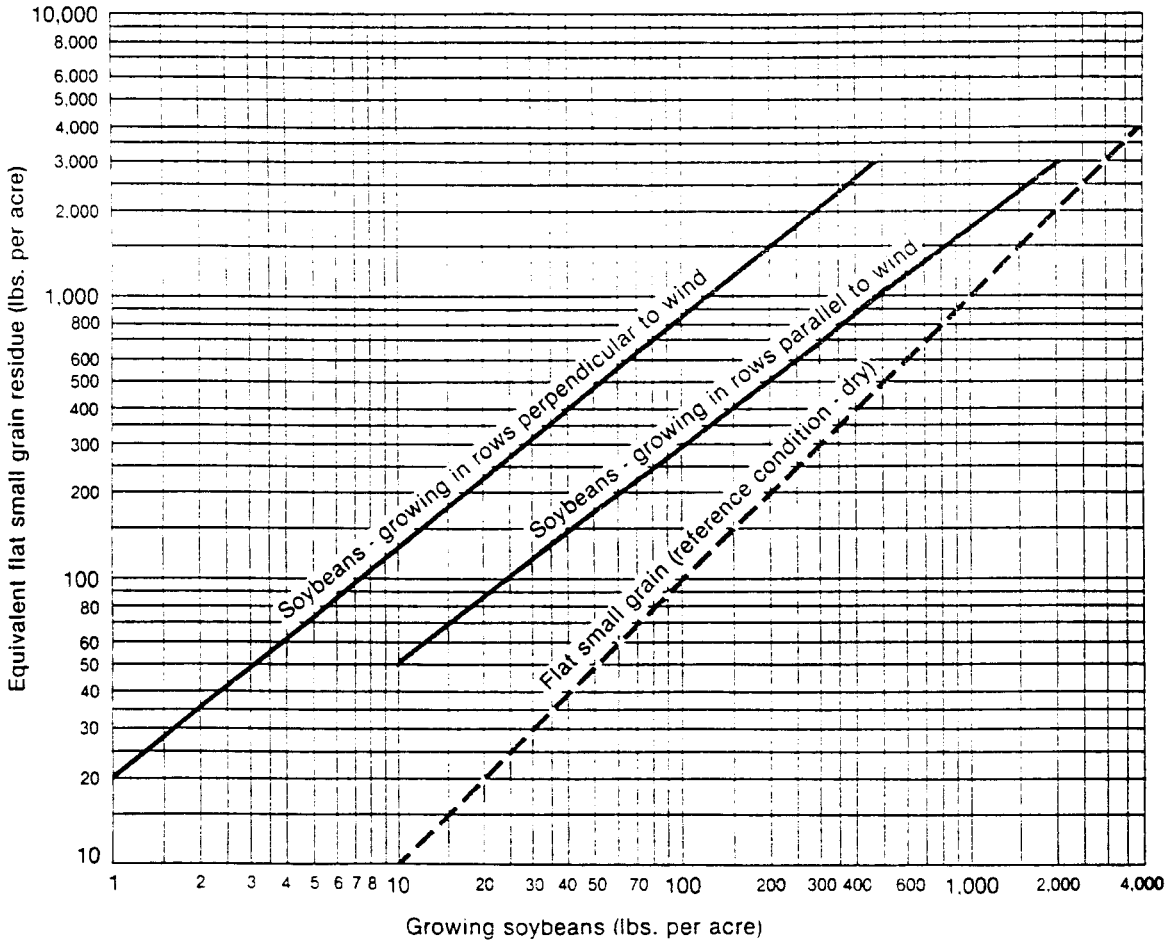
Flat Small Grain Equivalents of Sorghum Residues



Source*: Lyles and Allison, Trans. ASAE 1981, 24(2): 405-408. (Flat to 2500 lbs. standing stalks to 3500 lbs.) Leafy residue estimates by SCS North Central agronomists, 11/84.

CHART 1

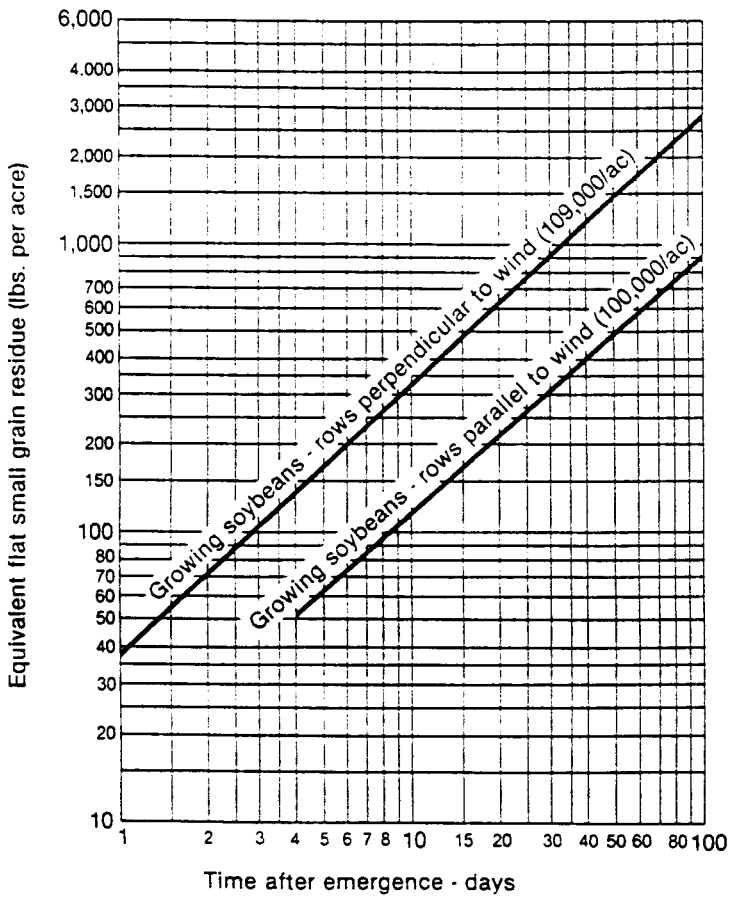
Flat Small Grain Equivalents of Growing Soybeans



Source: Armbrust & Lyles, 1984-unpublished.

CHART 1

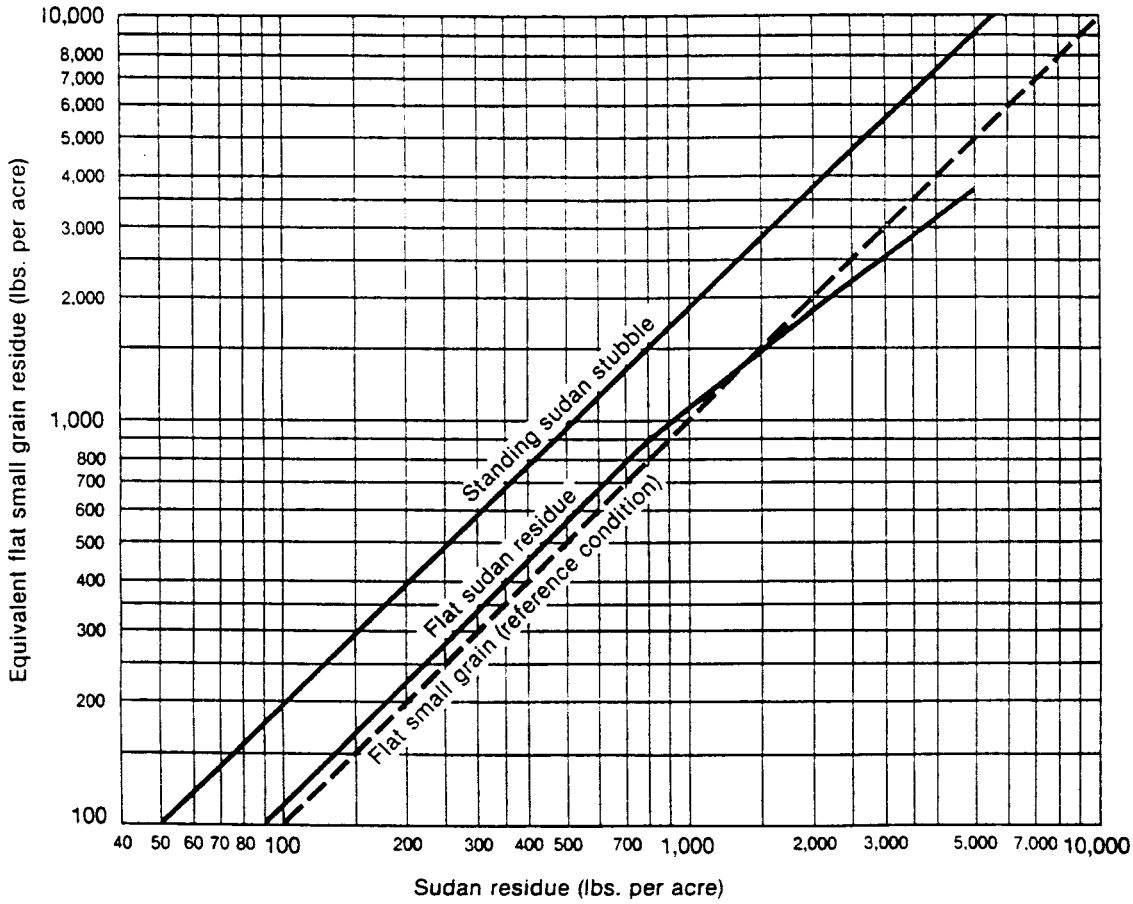
Flat Small Grain Equivalents of Growing Soybeans - Days After Emergence



Source: Armbrust & Lyles, 1984-unpublished.

CHART 1

Flat Small Grain Equivalents of Sudan Grass

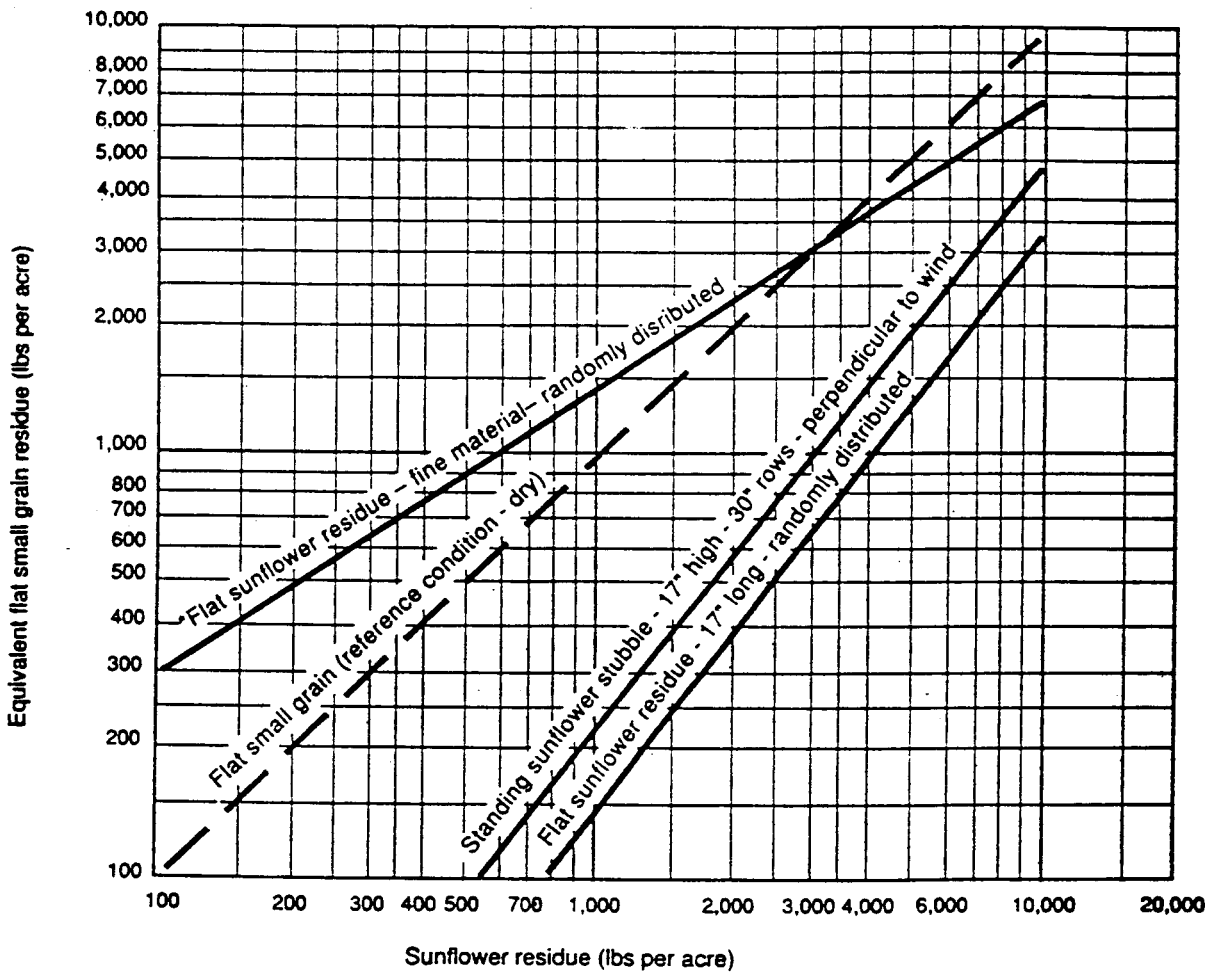


Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.

Source: Leon Lyles, ARS, memorandum, Jan. 25, 1985.

CHART 1

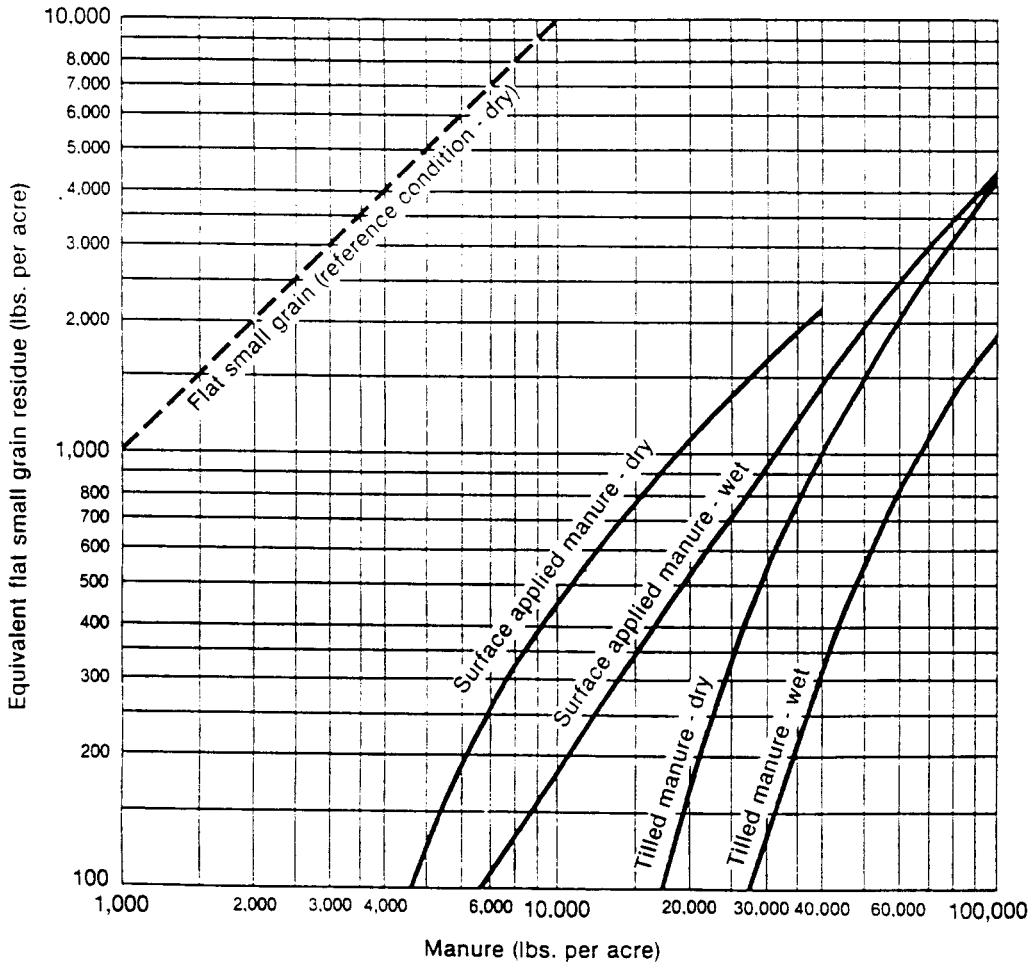
Flat Small Grain Equivalents of Sunflower Residue



Source: Lyles and Allison, Trans. ASAE 1981, 24(2): 405-408.
Residue wts. are washed, air dried, and placed as described for wind tunnel test.
*Best judgement estimate - ND workgroup 8/87.

CHART 1

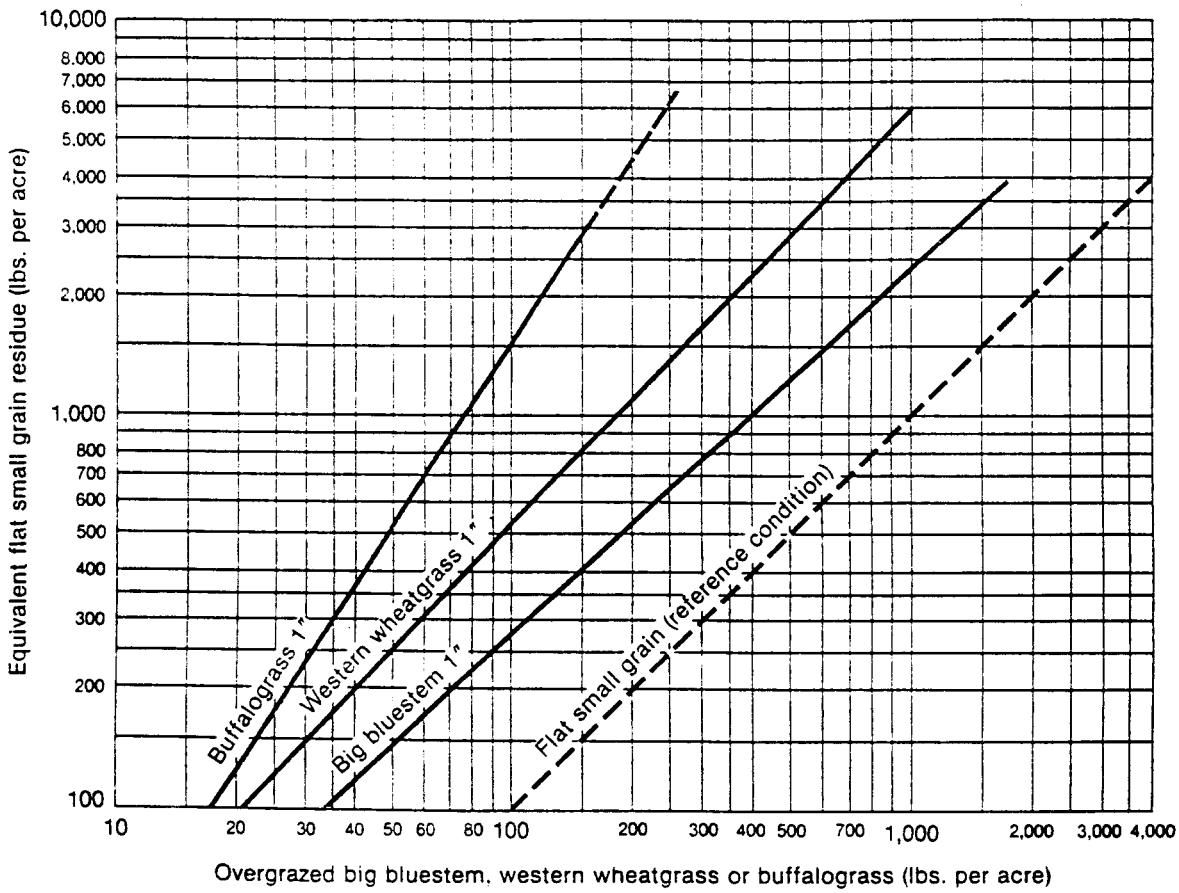
Flat Small Grain Equivalent of Manure



Source: Woodruff, N.P., L. Lyles, J.D. Dickerson, and D.V. Armbrust. 1974 Journal Soil and Water Conservation 29(3), pages 127-129.

CHART 1

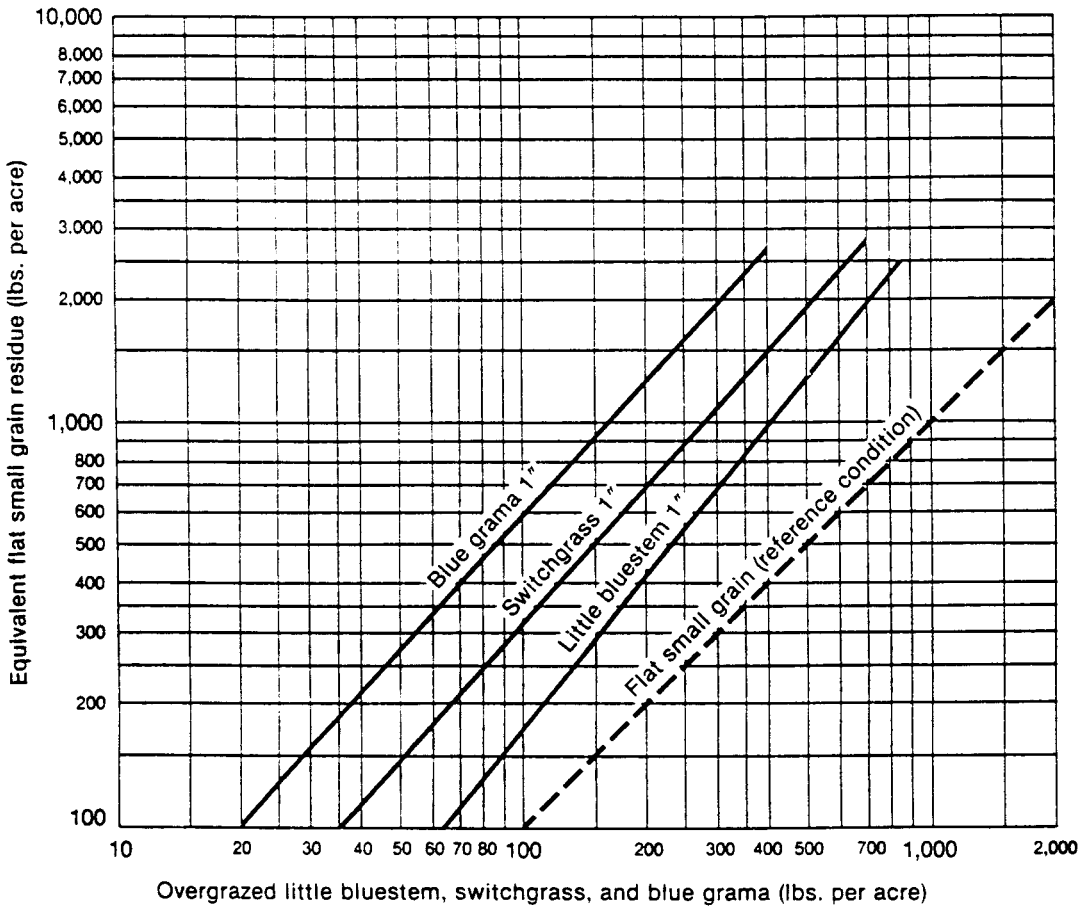
Flat Small Grain Equivalents of Overgrazed Big Bluestem, Western Wheatgrass, and Buffalograss



Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.
Source: Lyles and Allison - 1980 Journal Range Management. 33(2), pages 143-146.

CHART 1

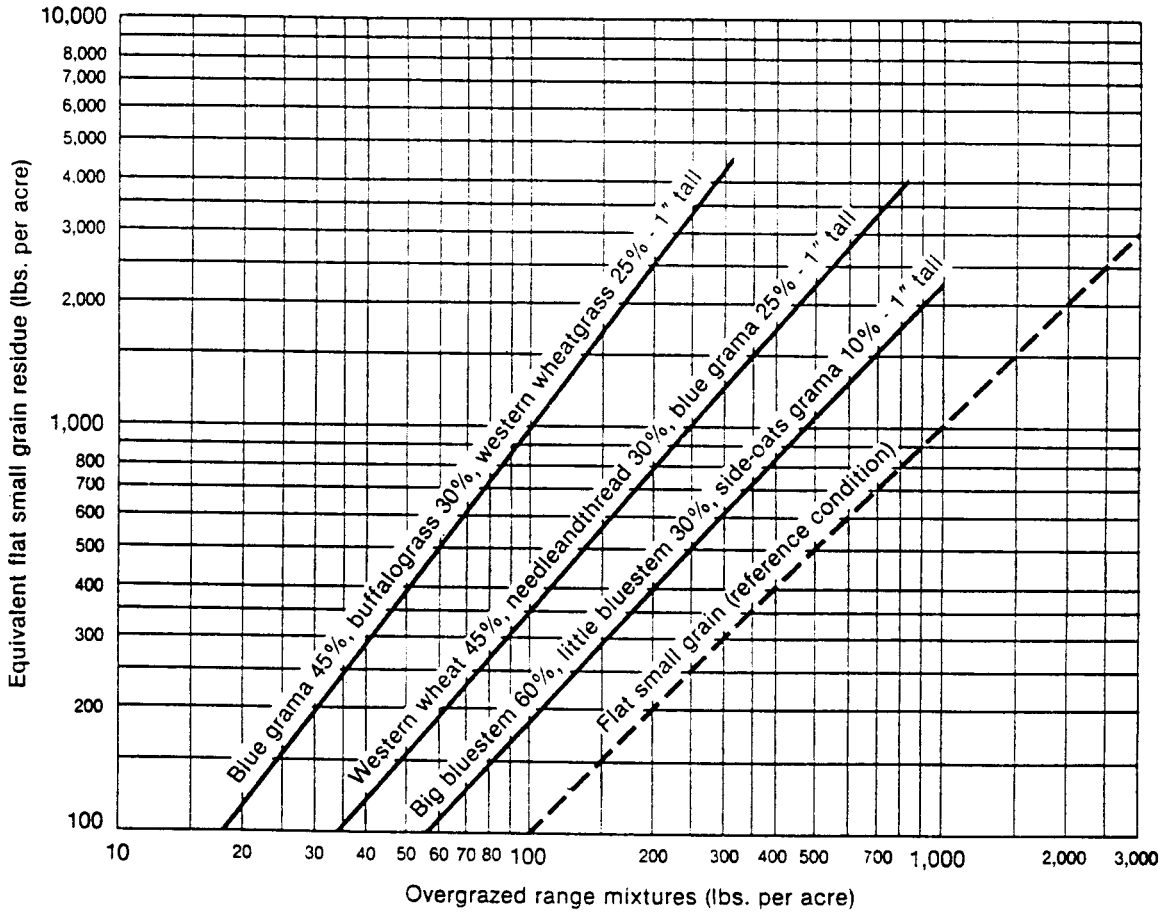
Flat Small Grain Equivalents of Overgrazed Little Bluestem, Switchgrass, and Blue Grama



Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.
Source: Lyles and Allison - 1980 Journal Range Management, 33(2), pages 143-146.

CHART 1

Flat Small Grain Equivalents of Overgrazed Range Mixtures·
Big Bluestem, Little Bluestem, Side-Oats Grama, Western Wheatgrass, Needleandthread, Blue Grama, and Buffalograss

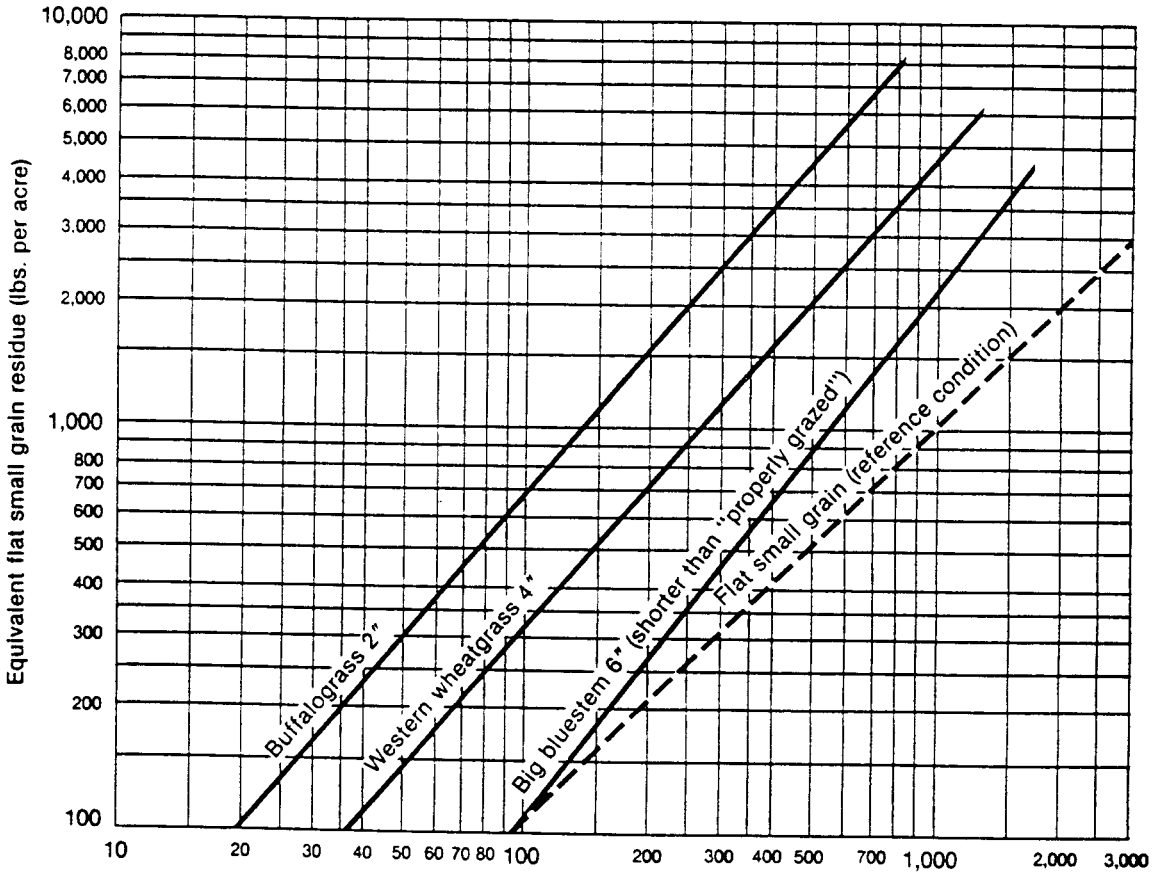


Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.

Source: Lyles and Allison - 1980 Journal Range Management, 33(2), pages 143 - 146.

CHART 1

Flat Small Grain Equivalents of Properly Grazed Big Bluestem, Western Wheatgrass, and Buffalograss

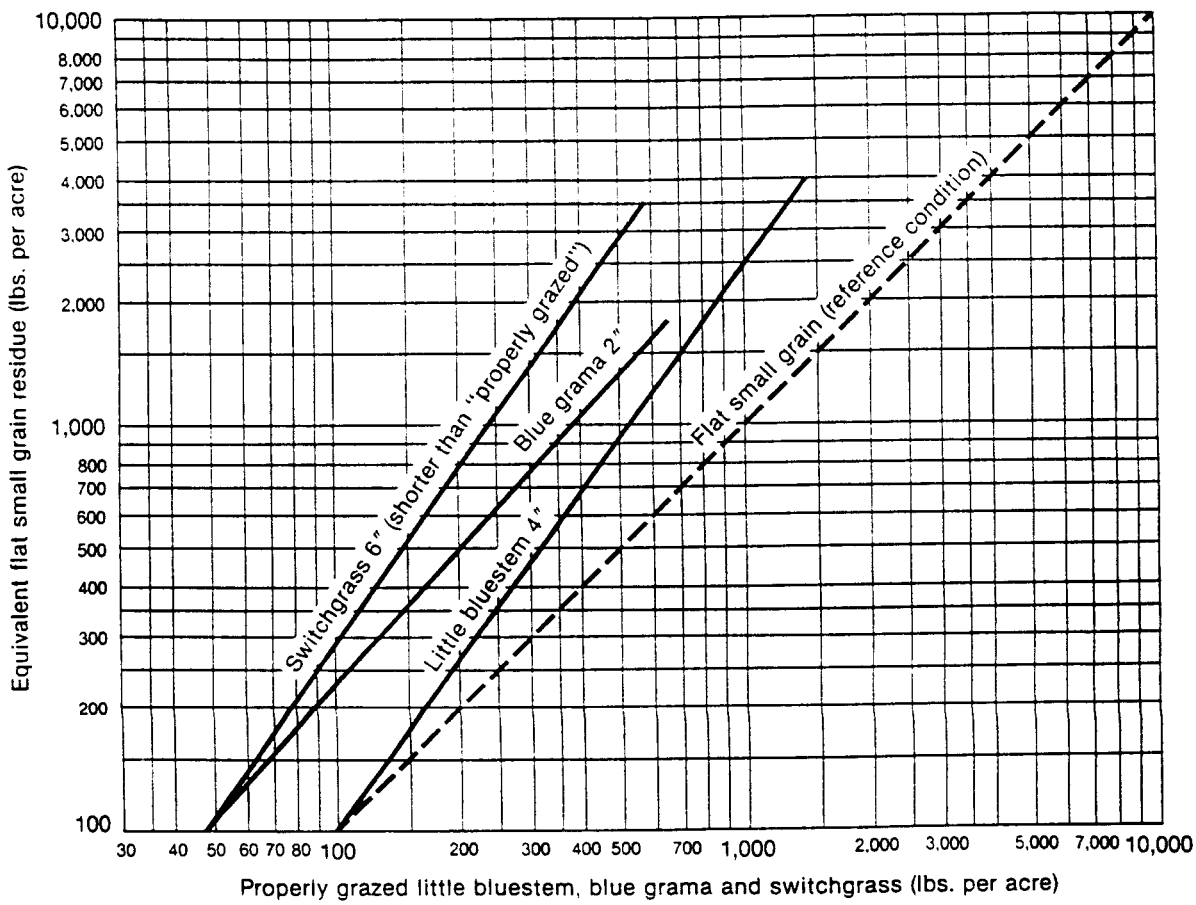


Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.

Source: Lyles and Allison - 1980. Journal Range Mangement 33(2), pages 143 - 146.

CHART 1

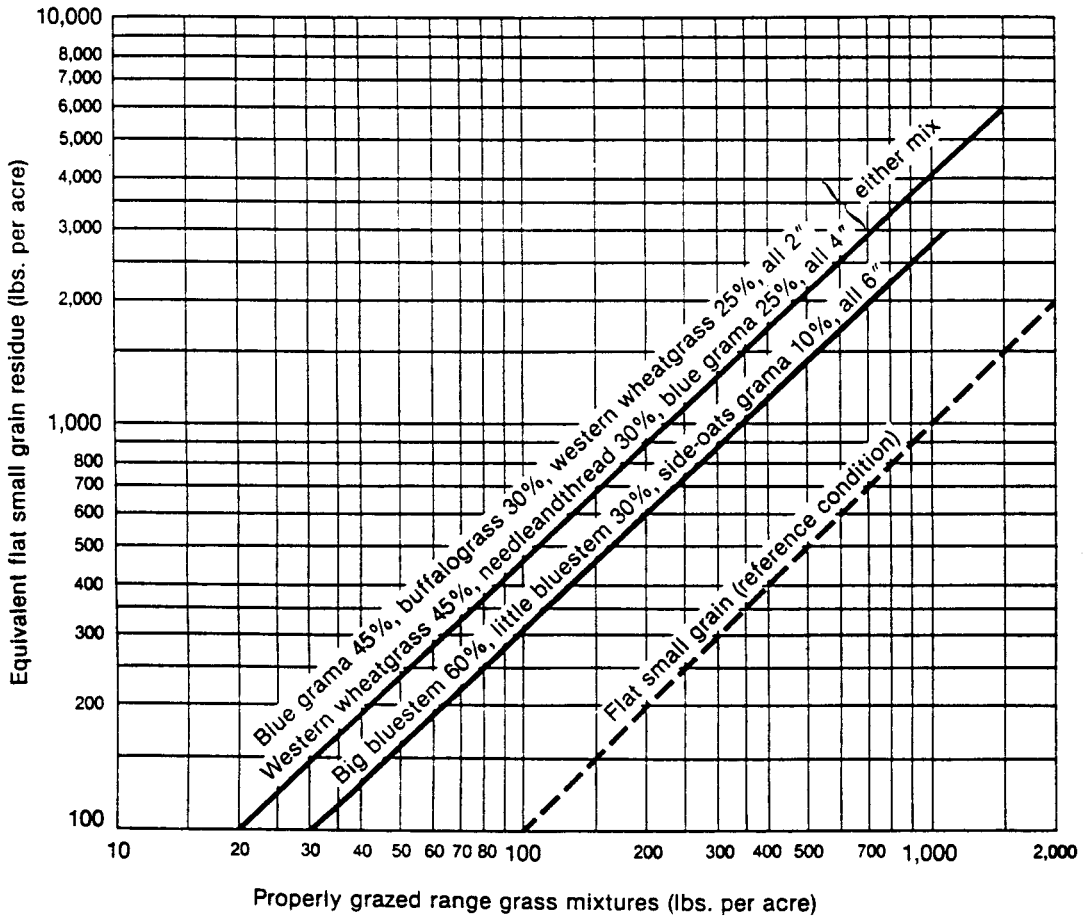
Flat Small Grain Equivalents of Properly Grazed Little Bluestem, Blue Grama, and Switchgrass



Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.
Source: Lyles and Allison - 1980, Journal Range Management 33(2), pages 143-146.

CHART 1

Flat Small Grain Equivalents of Properly Grazed Range Grass Mixture

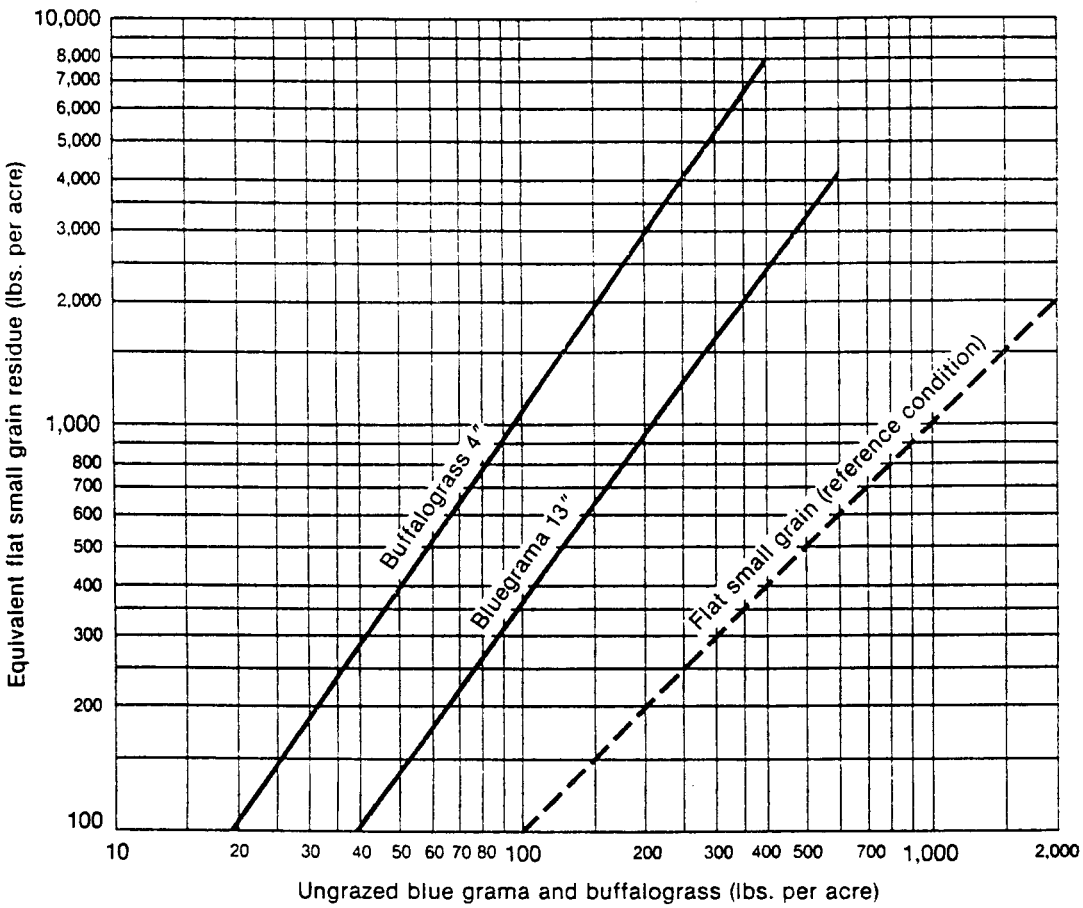


Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.

Source: Lyles and Allison - 1980 Journal Range Management. 33(2), pages 143-146.

CHART 1

Flat Small Grain Equivalents of Ungrazed Blue Grama and Buffalograss

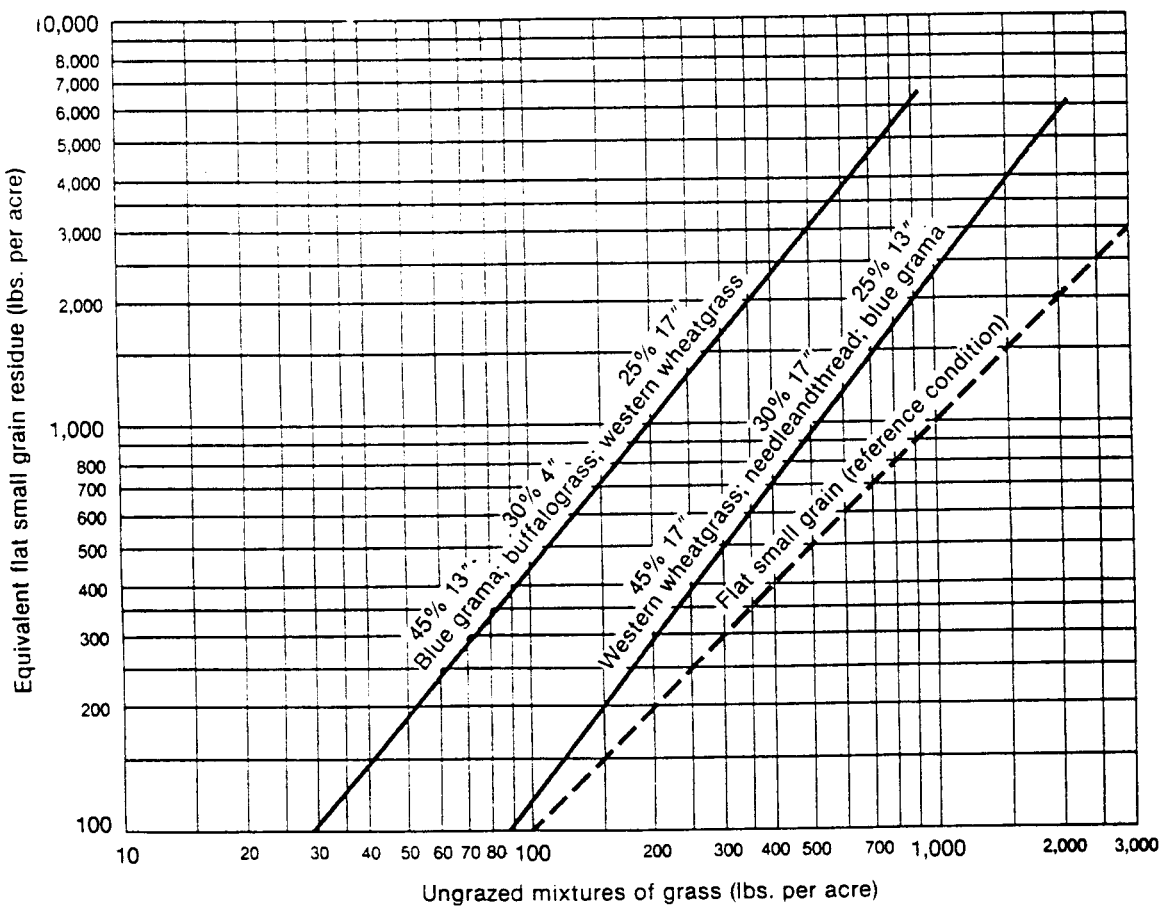


Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.

Source: Lyles and Allison - 1980, Journal Range Management 33(2), pages 143 - 146.

CHART 1

Flat Small Grain Equivalents of Ungrazed Western Wheat, Needleandthread, Blue Grama, and Buffalograss Mixtures



Reference condition - dry small grain stalks 10" long, lying flat on the soil surface in 10" rows, rows perpendicular to wind direction, stalks oriented to wind direction.

Source: Lyles and Allison - 1980. Journal Range Management 33(2), pages 143-146.