

YIELDS PER ACRE OF PASTURE AND HAYLAND
Atchison County, Kansas

Use and Explanation of Pastureland and Hayland Interpretations

This subsection provides information concerning the suitability of soils for the production of pasture and hayland. This subsection may contain pasture and hayland suitability groupings, land capability and yield estimates, yield estimates for individual grasses or legumes, or other information pertaining to the production of forage.

Pasture and Hayland Suitability Groupings

Soils are placed in pasture and hayland groups according to their suitability for the production of forage. The soils in each group are enough alike to be suited to the same grasses or legumes, to have similar limitations and hazards, to require similar management, and to have similar productivity and other responses to management. Thus, the pasture and hayland suitability group is a convenient way of grouping the soils for their management. If used, these groupings are identified and described in other reports in the subsection.

Yield Estimates

The average yields per acre that can be expected of the principal pasture or hayland crops, under a high level of management, are presented in this subsection. In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall or other climatic factors. The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

Under good management, proper grazing is essential for the production of high quality forage, stand survival, and erosion control. Proper grazing helps plants maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation are also important management practices.

The Pasture and Hayland table show yield estimates in tons per acre and animal unit months for pasture and hayland groups. An animal unit month is the amount of forage required by one animal unit (AU) for 30 days. On animal unit (AU) is one (1000 pound) mature cow and a calf up to weaning age (usually six months of age) or their equivalent. The Natural Resources Conservation Service uses 900 pounds of air dry forage as the amount needed to meet this requirement. To maintain a healthy and vigorous plant community, the degree of use should never be greater than 50 percent. Therefore only 25 percent of the total biomass grown is considered consumed by the grazing animal. Animal Unit Months can be converted to air dry pounds per acre production by multiplying the AUM by 30 days, then by 30 pounds per day, and then by four. This figure is the amount of total forage production.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil in the Nontechnical Description section. Specific information on plants and yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)
Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay		Brome-grass-alfalfa		Brome-grass-alfalfa hay		Smooth brome-grass	
	N	I	N	I	N	I	N	I	N	I
			Tons	Tons	AUM	AUM	Tons	Tons	AUM	AUM
013PD: Padonia-----	4e	---	4.20	---	---	---	---	---	4.90	---
Martin-----	4e	---	5.20	---	---	---	---	---	5.40	---
013SG: Shelby-----	3e	---	5.00	---	---	---	---	---	5.20	---
013SM: Shelby-----	4e	---	4.70	---	---	---	---	---	4.90	---
085WB: Wymore-----	2e	2e	---	---	2.50	---	---	---	---	---
085WC: Wymore, eroded-----	4e	4e	---	---	2.00	---	---	---	---	---
087MO: Martin-----	3e	---	3.20	---	---	---	---	---	5.50	---
Oska-----	3e	---	3.00	---	---	---	---	---	---	---
087SC: Shelby-----	3e	---	---	---	8.90	---	5.40	---	5.30	---
Pawnee-----	3e	---	3.50	4.80	---	---	---	---	---	---
601GC: Gosport-----	7e	---	---	---	2.50	---	---	---	1.00	---
601GT: Grundy-----	2e	---	---	---	---	---	4.40	---	8.80	---
601KH: Knox-----	3e	---	---	---	---	---	3.50	---	7.00	---
601LA: Ladoga-----	3e	---	---	---	10.00	---	6.00	---	6.50	---
601SH: Shelby-----	3e	---	---	---	8.90	---	5.40	---	5.30	---
601SM: Shelby-----	4e	---	---	---	8.30	---	5.00	---	5.00	---
Ab: Albaton-----	3w	3w	3.00	4.50	---	---	---	---	---	---
Ae: Aksarben-----	3e	---	5.60	---	---	---	---	---	6.00	---
AED: Arents, Earthen Dam-----	8	---	---	---	---	---	---	---	---	---
Aq: Fluvaquents-----	8w	---	---	---	---	---	---	---	---	---
Ar: Armster-----	4e	---	3.00	---	6.00	---	3.00	---	5.00	---
As: Armster-----	4e	---	3.00	---	6.00	---	3.00	---	5.00	---
Ch: Chase-----	2w	---	5.40	---	---	---	---	---	6.00	---
Go: Gosport-----	7e	---	2.00	---	2.50	---	2.50	---	1.00	---
Gr: Grundy-----	2w	---	3.50	---	9.00	---	4.40	---	8.80	---
Gu: Grundy-----	3e	---	3.00	---	9.00	---	4.40	---	8.80	---
Gx: Grundy-----	3e	---	3.00	---	7.00	---	3.30	---	6.60	---

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Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay		Brome-grass-alfalfa		Brome-grass-alfalfa hay		Smooth brome-grass	
	N	I	N	I	N	I	N	I	N	I
			Tons	Tons	AUM	AUM	Tons	Tons	AUM	AUM
Hn: Haynie-----	2w	2w	---	---	8.80	---	5.30	---	5.70	---
Ho: Haynie-----	2w	2w	---	---	8.80	---	5.30	---	5.70	---
Onawa-----	2w	2w	---	---	5.60	---	3.60	---	5.30	---
Ju: Judson-----	2e	---	6.10	---	---	---	---	---	6.50	---
Ke: Kennebec-----	2w	---	6.00	---	---	---	---	---	6.60	---
Kf: Kennebec, CHanneled-----	5w	---	---	---	---	---	---	---	---	---
Kg: Kennebec-----	2w	---	4.50	---	11.30	---	6.80	---	7.10	---
Colo-----	w	---	3.00	---	7.00	---	4.30	---	5.80	---
Kn: Knox-----	3e	---	---	---	---	---	3.70	---	7.40	---
Ky: Knox-----	6e	---	1.50	---	6.00	---	2.00	---	6.00	---
Gosport-----	e	---	1.00	---	2.50	---	1.80	---	1.00	---
M-W: Miscellaneous Water-----	---	---	---	---	---	---	---	---	---	---
Mc: Martin-----	3e	---	3.20	---	---	---	---	---	5.50	---
Mw: Muscotah-----	2w	---	4.70	---	---	---	---	---	6.10	---
No: Nodaway-----	2w	---	5.70	---	---	---	---	---	6.30	---
Od: Onawa-----	2w	2w	---	---	5.60	---	3.60	---	5.30	---
On: Onawa, sic1, 0-2%, occ. flood-----	2w	2w	---	---	5.60	---	3.60	---	5.30	---
Waldron, sic1, 0-2%, occ. flooded-----	2w	2w	3.00	4.50	---	---	---	---	---	---
Ow: Onawet-----	5w	---	---	---	---	---	---	---	---	---
Pa: Knox-----	3e	---	---	---	---	---	3.70	---	7.40	---
Palermo-----	4e	---	---	---	---	---	3.70	---	7.00	---
Pb: Palermo-----	4e	---	---	---	---	---	3.70	---	7.00	---
Pc: Pawnee-----	3e	---	3.50	4.80	---	---	---	---	---	---
Pd: Pawnee, eroded-----	4e	---	---	---	8.00	---	4.80	---	5.50	---
Pt: Pits, Quarries-----	---	---	---	---	---	---	---	---	---	---
Re: Reading-----	1	---	5.60	---	---	---	---	---	5.00	---
Sb: Sharpsburg-----	2e	---	3.50	---	10.60	---	6.40	---	6.70	---

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	N	I	N	I	N	I	N	I	N	I
			Tons	Tons	AUM	AUM	Tons	Tons	AUM	AUM
Sc: Sharpsburg-----	3e	---	3.50	---	10.30	---	6.20	---	6.50	---
Sh: Shelby-----	3e	---	3.40	---	8.90	---	5.40	---	5.30	---
Sm: Shelby, eroded-----	4e	---	3.00	---	8.00	---	4.80	---	4.90	---
Ss: Shelby, eroded-----	6e	---	4.00	---	7.50	---	3.00	---	4.50	---
Steinauer-----	e	---	---	---	---	---	---	---	---	---
Vr: Rock Outcrop-----	8	---	---	---	---	---	---	---	---	---
Vinland-----	6e	---	---	---	---	---	---	---	3.00	---
Vs: Vinland-----	6e	---	3.00	---	7.00	---	2.00	---	3.00	---
W: Water-----	---	---	---	---	---	---	---	---	---	---
Wa: Wabash-----	3w	---	---	---	10.00	---	3.00	---	7.00	---
Wb: Wabash-----	3w	---	3.00	---	10.00	---	4.30	---	7.00	---
Wg: Wamego-----	6e	---	---	---	---	---	---	---	4.80	---
Vinland-----	6e	---	---	---	---	---	---	---	3.20	---
Wh: Wathena-----	4w	---	---	---	---	---	0.90	---	1.80	---
Haynie-----	2w	2w	---	---	8.80	---	5.30	---	5.70	---
Wm: Wymore-----	3e	---	5.70	---	---	---	---	---	6.00	---
Wn: Wymore-----	4e	---	5.40	---	---	---	---	---	5.60	---

