

Grazing Weeds & Their Nutritional Value

Yoana Newman, University of Wisconsin-River Falls

Pasture weed presence is almost unavoidable. Whether you planted the pasture mixture on a well-prepared bed or managed the grazing of an existing stand, pasture weeds will be present or will appear depending on many factors (e.g., environment, overgrazing, amount of existing seed in the soil). Grazing is a low cost method of controlling weeds. While the target is not to increase weed population for forage, the strategy is to utilize weeds that could be of grazing value.

Not all pasture weeds are created equal. While many are undesirable and a nuisance, others are palatable and have high or adequate forage nutritive value, especially at early maturity. When young, some of the protective thorns and hairs may not yet be developed. Some can be used as part of the pasture nutrition for livestock at any given time of the grazing season, others can be resourceful in mid- to late summer when temperate forages go through a summer slump. Many of the weeds growing in the Midwest fertile soils will have sufficient palatability, crude protein, and digestibility to be regarded as acceptable forage. The nutritional value for many of these common annual and perennial pasture weeds have been studied (Table 1).

On average, the digestibility for these common pasture weeds is >65%, with maximum values for most >79%. Among the grasses, species like yellow foxtail and barnyardgrass are highly digestible. When grazed at immature stages, Reed canary grass, a winterhardy grass adapted to poorly drained soils, can also be highly digestible. Among the broadleaf species, reports of high digestibility are associated with plants like dandelions, lambsquarter, plantain, and redroot pigweed. For drier areas, kochia is regarded as palatable and of adequate feed value.

Dandelions, in particular, stand out because of high palatability and digestibility ≤83%. In addition to high quality and palatability, dandelion herbage is not associated with toxins. The plant has a taproot which is considered a positive contribution to pasture soil health.

On average, protein concentration for these grasses is 17%, but can be as high as 29%, as was reported for quackgrass. This confirms farmer testimonials regarding the value of quackgrass in drier than normal years. Considering broadleaf plants, redroot pigweed is high in protein, but can also be toxic to cattle due to high nitrates.

Table 1. Nutritive value of common pasture weeds in the Upper Midwest.

Grasses	Annual	Perennial	Digestibility (%)	Crude Protein (%)	Palatability
Yellow foxtail	X		68-82	20-22	Yes
Green foxtail	X		66-82	20-21	Yes
Giant foxtail	X		63-76	17-21	No*
Barnyardgrass	X		70-79	18-22	Yes
Quackgrass		X	59-68	13-29	Yes
Reed canary grass		X	60-79	11-24	No*
Broadleaves					
Dandelion		X	74-83	12-20	Yes
Kochia		X	57-83	5-20	Yes
Lambsquarter	X		69-74	24-29	Yes
Plantain (English)		X	71-80	11-18	Yes
Redroot pigweed	X		73-79	21-26	Yes
Smartweed	X		50-62	22-26	Yes
White campion		X	60-75	11-15	Yes

*Palatable at early maturity
Adapted from several sources (University of Minnesota; North Dakota State University; Pennsylvania State University, University of Wisconsin-River Falls; available upon request).



Spring dandelions in pasture near Springfield, WI.



Milking cows grazing dandelions amid grass/legume mix pastures in mid-May near Springfield, WI. (Photos: Yoana Newman, UWRF)

Most grasses, if grazed at an early stage (before flowering), will have acceptable forage quality. However, forage quality of grass weeds rapidly declines after flowering. Early grazing will provide high quality from the cultivated forage or grasses planted, but also from those grassy weeds consumed.

Yellow and green foxtails are palatable to cattle and high in protein and digestibility. Because most grassy weeds are annuals, their biology is set for survival, not yield. If grazed early, their persistence is compromised, allowing the well-managed target forage plants to take over. Many of the common annual broadleaf species will not decrease the nutritive value of forages at early stages of maturity.

Plants such as plantain, a summer active broadleaf, will likely provide livestock with magnesium and calcium given the high concentration of these minerals in their herbage (the data not presented here, but reported in scientific literature).

The nutritional value of weeds cannot be generalized. Any plant identified as a weed should be evaluated for toxicity potential and whether they are safe to be grazed.