Myth: Cheatgrass (Downy Brome) provides equal nutrition throughout the grazing season compared to native and improved bunchgrasses.

Forage quality and availability are major factors in determining total nutrient availability and timing of grazing in the Pacific Northwest. In the Pacific Northwest, many acres of rangeland contain significant amounts of cheatgrass (downy brome) which is a winter annual that competes with native and improved grasses and other forage species. This problem has been manifested over several decades and has been an important consideration in the management of those rangelands to optimize the use of the available forage for beef cattle. In many areas, cheatgrass has ultimately suppressed the native grasses.

While range rehabilitation is an option, it is a long-term solution to the problem. The focus of this column is: What do we need to know about cheatgrass from a forage quality standpoint and how can we manage around this problem until the native and/or improved grasses are reestablished and providing a more season-long forage resource?

When we compare cheatgrass with some of our native and improved bunchgrasses (and many of the readers of this column have observed this from personal experience), cheatgrass starts early in the spring with relatively high quality, but that quality declines with its rapid move toward vegetative maturity. Our native and improved grasses, take a bit longer to get going in the spring, but persist with a higher quality forage throughout a much longer period during the grazing season.

Researchers in Washington State found that Bluebunch Wheatgrass maintained its quality regardless of grazing treatments throughout the grazing season (Wagoner et al., 2013).

In general, Ganskopp and Bohnert (2001) found that Cheatgrass maintained moderate forage quality as measured by crude protein through about mid-June. Crude protein stayed in the moderate level for Bluebunch Wheatgrass until early July indicating an advantage in quality for a few more weeks during the grazing season (Figures 1 and 2).
Figures 1 and 2. Crude protein content of Cheatgrass and Bluebunch Wheatgrass throughout the growing season (Ganskopp and Bohnert, 2001).

For In Vitro Organic Matter Disappearance (IVOMD), Bluebunch Wheatgrass maintained higher “digestibility” in August and September when compared to Cheatgrass demonstrating a potential to deliver more energy to the animal (Figures 3 and 4).

Figures 3 and 4. In Vitro Organic Matter Disappearance (IVOMD) of Cheatgrass and Bluebunch Wheatgrass throughout the growing season (Ganskopp and Bohnert, 2001).

Even though it started out lower, a measure of fiber (NDF) increased faster for Cheatgrass with advancing maturity and ultimately had more NDF relative to Bluebunch Wheatgrass and therefore has the potential to reduce intake (Figures 5 and 6).

Figures 5 and 6. Neutral Detergent Fiber (NDF) content of Cheatgrass and Bluebunch Wheatgrass throughout the growing season (Ganskopp and Bohnert, 2001).
Our investigation of the literature also discovered a comparison of Cheatgrass and Crested Wheatgrass (Cook and Harris, 1952; Bovey et al., 1961). While the crude protein content was a around 2.5% lower for Crested Wheatgrass at the start of the growing season, Crested Wheatgrass had higher crude protein throughout the subsequent sampling periods. After first sampling, the crude protein content of Cheatgrass was significantly lower than Crested Wheatgrass for the sampling periods (Figure 7). We calculated the indigestible fiber from the lignin content (Rohwer, 2021 unpublished data) and found that the indigestible fiber of Cheatgrass began to increase early in the grazing season and was significantly higher than Crested Wheatgrass for the remainder of the grazing season (Figure 8).

Figure 7. Crude protein content of Cheatgrass and Crested Wheatgrass from spring through early summer (Cook and Harris, 1952; Bovey et al., 1961).
As noted by Ganskopp and Bohnert (2001), there can be significant year-to-year variation in the forage quality and yield. The data demonstrates that while Cheatgrass has acceptable forage quality early in the grazing season it falls behind the native and improved grasses throughout the season.

*Restoration of the native grasses will increase the amount and quality of feed available. This increases the carrying capacity and gain per animal.*

Replacing Cheatgrass significantly reduces range fires.

Your WSU Extension professionals are always available to assist in pasture renovation and enhancement.

