

These fertilizer guidelines have been developed by the University of Idaho and Washington State University based on relationships between soil tests and crop yield responses to applied fertilizers. The suggested fertilizer rates are designed to produce above-average yields if other factors are not limiting production. Thus, these fertilizer guidelines assume good management.

These suggested rates will be accurate for your field provided that (1) the soil samples are properly taken and are representative of the field to be fertilized and (2) the crop and fertilizer history supplied is complete and accurate. For help in obtaining a proper soil sample, see University of Idaho Bulletin 704, *Soil Sampling*, or consult your county extension educator.

Harvested legumes and legume-grass mixtures remove large quantities of nutrients from the soil. Incorporate fertilizer into the soil as the seedbed is prepared, and apply additional amounts periodically over the life of the stand.

Essential plant nutrients

Nitrogen (N), phosphorus (P), potassium (K), sulfur (S), boron (B) and molybdenum (Mo) are essential for plant growth but often deficient in northern Idaho pas-

are most beneficial. Most northern Idaho soils contain

Additional Weeding Considerations

- Weeds, insects, diseases, and environmental stress can influence the effectiveness of a fertilizer program and reduce yields.
- Phosphorus, sulfur, and boron are the elements northern Idaho legumes and legume-grass pastures most often need. At times, applying nitrogen and potassium will also improve growth.
- Because phosphorus and potassium are relatively immobile in soils, it is best to incorporate these nutrients into the seedbed before seeding.
- When the pasture is established, apply molybdenum as a seed coat on legumes. Apply the rhizobia inoculant to the legume seed just before planting.
- Legumes grow poorly in soils with pH values less than 5.6. Lime applications may be necessary to correct soil acidity. Apply and incorporate lime into the soil before the forage is established.
- Acid soils and high levels of soil nitrogen will favor grass growth at the expense of legumes.
- Wet, poorly drained pastures will favor grass growth at the expense of legumes.
- Using nitrogen fertilizers will tend to reduce the proportion of legumes in a legume-grass mixture, while using phosphorus will tend to increase the proportion of legumes.
- Seed the best-adapted legume and grass varieties for your area.