In the last issue of the "Mid-Columbia Small Farms and Acreages News" we began looking into pasture management. It is important to remember that the essential ingredient to healthy pasture is having a management plan in place. The purpose of this series of articles is to help you gather the basics to develop your plan. We have already discussed two important components of pasture management: (1) water quality issues and (2) carrying capacity for pastures.

This issue we will look into three more issues related to developing a good pasture management plan, specifically:

- NUTRITIONAL VALUE OF FORAGES AND SEASON OF USE
- WEED CONTROL
- FERTILITY AND NUTRIENT MANAGEMENT OF THE SOIL

NUTRITIONAL VALUE OF FORAGES AND SEASON OF USE

It may seem strange to include nutritional value of forages as part of pasture management; however, understanding the implications of what livestock receives from the forages they consume can be significant to both animal health and economics.

Season of use has the biggest impact on forage quality. As you would expect, green and growing plants usually have a higher nutrient value for livestock. However, when plants are growing very rapidly they can have poor mineral content and, depending on species, even lower nutritional values because of the high water content.

The biggest concern in regard to season and forage quality usually occurs when plants are dormant. Depending on forage types and water availability, many plants in the Mid-
Columbia may begin to go dormant as early as late June or early July. So what does this mean to you management plan? Several things are important to consider.

1) Dormant plants can be grazed somewhat more heavily without damaging the plant.
2) Nutritional value of dormant plants is usually considerably less than growing plants. For example, some grasses while growing may have up to 15% crude protein content, yet once this same grass goes dormant it may have protein levels as low as 5 to 7 percent.
3) Know what you animals' nutritional requirements are. For mature non-producing animals, dormant pasture will be adequate assuming enough forage is available. However, for high producing and performing animals or animals that are growing, the available nutrients from dormant forages will likely be insufficient to meet their needs.

Understanding livestock's needs while grazing may impact grazing strategies as well as consideration of species selection for new seeding. Rotational grazing or grazing pasture cells with different forages can help extend your opportunity to graze higher quality feeds later into the summer. Supplementing strategies will also be impacted by your pasture management plan.

A final consideration in season of use is to avoid overusing pastures too early. It is tempting to turn livestock out as soon as grass begins to green up. However, it is important for the long-term health of your pasture to wait until the ground firms up and animals don't leave tracks in the mud.

To make sure the grass is ready for grazing, you can conduct this simple test: grab a handful of grass and pull and twist at the same time. If the roots come up with the grass, you need to wait before turning animals out; if the grass tears and the roots stay in the ground, you should be good to go. Allow grass to get adequate height before turn out -- this is usually about six inches, depending on forage type. You will need to have a lot or sacrifice area to help ensure the health of the rest of your pasture.
WEED CONTROL
Weed control issues for small acreages are sometimes difficult. Many owners of small acreages lack the equipment, expertise or private applicator's license required for restricted use chemicals. However the weed control component of a pasture management plan is essential.

Weeds are extremely competitive with grasses. When grazing is not well managed, weeds can easily take over. Weeds can use from 6 to 10 times as much water as grasses of the same size, so the presence of weeds may have significant impact on forage production.

Noxious weeds also are a worthy foe of small acreage owners. Noxious weeds are simply weeds that have been listed by the state as causing a considerable threat to the health and livelihood of the land. Legally, if there are noxious weeds on a property, district weed control authorities can use whatever means necessary to control them and charge the owner for the cost. Most weed districts work hard to help land owners control problem weeds and are an excellent resource for information on controlling weeds.
A good avenue of non-chemical weed control is grazing. Grazing can be an effective control when done at the correct time and at the right intensity. Another good choice for controlling the spread of some weeds is simply clipping the weeds at the correct time to prevent them from reseeding. Several useful weed control products (herbicides) are available which can be applied with a hand sprayer. Before applying a weed control product, identify the weed that is to be eliminated and see if the selected herbicide is effective against it. Always follow label directions.

If you have any questions there are several good resources you should not hesitate to use. Your local county agent will have answers to many weed control questions, the local weed districts have knowledgeable professionals who are willing to share information and there are also many weed control companies who work with land owners to control weeds.
FERTILITY AND NUTRIENT MANAGEMENT OF SOIL

Soil fertility and nutrient availability is very important in optimizing the production of your pastures. The amount of moisture you receive is usually the most limiting factor in forage production but if moisture is adequate you will need to make sure you have the nutrients available to keep the forages growing.

There are journals of information on soil fertility but a few basics will help you make some decisions and ask better questions should you choose to work with a professional on your soil fertility. The following is a list of nutrients you will want to know about:

- Phosphorous (P) - macronutrient; essential to plant growth.
- Potassium (K) - macronutrient; major ion in plant and animal cells.
- Soil pH (pH) - measure of soil acidity; seed germination and plant growth depend on correct pH, usually 6.0 to 7.0 pH is recommended.
- Nitrogen (N) - is extremely important in both yield and quality of forages; adequate levels will vary depending on growth potential and plant species.
- Micronutrients - manganese, zinc, boron, calcium, and copper can also play an important role in healthy pastures.

Soil testing is very reasonably priced and will provide owners with valuable information to assist in making wise decisions in fertility management of their pastures. The tests usually cost less than $30.00 and should be done every 2 to 3 years.

A few facts to remember: (1) legumes (alfalfa and clovers) require very little nitrogen so fertilizing with nitrogen will enhance the growth of grasses which may then out-compete legumes and (2) the faster plants grow and the more they produce, the greater the need for supplementing soil fertility.

Consult you extension agent for more information on soil fertility and pasture management in your area.
CONCLUSION

In this series we have discussed several of the components that are important to a good pasture management plan. Let me briefly recap a few essentials:

- Develop a plan based on management goals
- Understand you will have to have a sacrifice area because you will not be able to allow animals to graze a pasture year-round
- Use resource professionals that are available to you, including your Extension agent
- Understand your pasture's limits - DO NOT OVERGRAZE