

# FORAGER



*Agronomics with livestock in mind!*



## SPRING PLANTING – MAKING THE MOST OF FORAGE INVENTORIES

Planting cereal crops in the spring for forage is a common practice when forage supplies are short, hay prices are high, or there has been a high degree of alfalfa winterkill. Before planting next spring it is helpful to review a variety of management considerations for spring planted crops, primarily oats, barley, and triticale (wheat x rye cross). This can make a difference to your forage inventory and feeding program until livestock can either get out on pasture or summer crops begin to mature and are harvested.

### *Do forage yields differ between spring cereals?*

Forage yield of spring cereals is affected by species planted, variety selection, seeding date, and time of harvest. When harvested at the boot to early-head stage, the three spring cereal species (indicated above) are capable of providing 1.5-2.5 tons of dry matter per acre. Variety selection within species has a significant impact on overall yield as well. This is especially true for oats, where a wider range of varieties may be available. Some general guidelines pertaining to spring cereal yields are as follows:

- A wide variation in yield potential exists between oat varieties with early-maturing varieties yielding least and late maturing varieties yielding most.
- Barley reaches the late-boot stage about the same time as early-maturing oat varieties. Yields are also similar to early oats.
- Triticale is similar in yield to barley and early-maturing oats. It matures about the same time as a mid-maturity oat variety.

### *What makes ForagePlus so different?*

ForagePlus is a forage oat variety developed by the University of Wisconsin. From strictly a yield standpoint, it's in a class by itself. Dry matter yields of ForagePlus are about 25% higher than that of the highest yielding standard oat varieties. It matures about a week later than late-maturing grain varieties and has somewhat lower forage quality (1-3 percentage units lower crude protein than standard oat varieties). The lower forage quality can be offset by harvesting in the early-boot stage, but expect a corresponding decrease in yield.

### *Does forage quality differ between spring cereals?*

Differences in forage quality are relatively small between cereal grain species, when harvested at a similar stage of maturity. Some research and variety evaluation trials indicate significant differences among small grain varieties. For example, the range in crude protein content

among oat varieties tested in recent University of Wisconsin trials was 11.9% -15.6%. Early maturing varieties tended toward the higher end of this range. Other research indicates that crude protein content of boot-cut cereal forages can range from 16-20%, depending on variety. Nitrogen fertility has a significant impact on crude protein content of small grain forages.

### *What effect does harvest timing have on yield/quality?*

As with most forage crops, there is a yield – quality tradeoff as small grains mature from boot to dough-maturity stages. Dry matter yields range from 1.5-2.5 tons per acre at late-boot stage to 3.0-4.0 tons per acre in the milk and dough stages. Timing of the cereal forage harvest is critical to obtain the desired forage quality. Be alert! The window for harvest is often small for any given stage of maturity and desired forage quality. For instance, typical forage quality values of oats harvested at different

#### Average forage quality values for oats harvested at different maturity stages.

Harvest Stage	Crude Protein	NDF
Boot	16-18	52-54
Heading	14-16	56-58
Milk	12-14	59-61
Dough	10-12	59-61

maturity stages are presented in the table (left). Farm and research experience indicate that cereal forage quality can be highly variable

over years and environments. Actual forage quality may be different from those presented in the table. Like most grasses, the NDF component of cereal forage is more digestible than that of legumes such as alfalfa. Thus, at similar total fiber concentrations, cereal forages will provide more digestible fiber and energy compared to a forage source like alfalfa.

### **Summary**

Spring-planted small grains and grasses are well adapted to northern climatic conditions and can offer good yields of high quality forage in a relatively short amount of time. As a legume companion crop, they compete well with weeds and reduce soil erosion on vulnerable soils. Although dry matter yields are less than that of alfalfa or corn silage, spring small grains offer dairy producers a good forage alternative in years of short forage supply. When cut in the boot- to early-heading stages, small grain forage is high in energy and protein. Follow recommended agronomic practices to obtain maximum yields and forage quality.

*(edited from an article by Mike Rankin, UW Extension, Fond du Lac, WI)*

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