

## **High-Quality Alfalfa is His Business**

*by Dwain Meyer, North Dakota State University*

Alfalfa Meadows, owned and operated by Glenn Tofsrud at Minnewaukan, ND, has high-quality alfalfa hay as its primary product. Alfalfa Meadows owns or rents about 2,000 acres all devoted to alfalfa production, but this is down from the 3,000 acres of a few years ago due to loss of some land leases and a storm that damaged one of his storage barns. In addition to high-quality hay, Alfalfa Meadows sells wheat and barley straw that they purchase from neighbors and raise Norwegian Fjord horses.

Ten years ago when Glenn began Alfalfa Meadows, his primary market was small dairies. But today several of these dairies have quit and his primary market is larger dairy operations that have developed in North Dakota and Minnesota. However, this requires hauling the hay farther with increased freight charges, especially with today's fuel cost. All hay is priced on farm and delivery is added. Hay is delivered as large square bales, large round net-wrapped bales, or ground hay.

Much of the alfalfa hay is bought by established buyers, but Glenn is always looking for new markets and has sold hay all over the United States and Canada wherever there is a need. Finding markets for up to 10,000 tons of hay in a good production year can be a real challenge, but there always seems to be an area deficient in high-quality hay. Glenn believes a good forage quality test also helps market his hay.

Establishing a thick productive stand Glenn sees as the first step in producing high-quality hay. He has used both companion crop and clear seeding techniques to successfully establish stands and believes both have their advantages. However, companion crops are preferred since he stays nearly organic and does not use any chemicals after the crop emerges. New stands are seeded at 10 pounds per acre generally with a Pioneer or Dairyland variety. After the first year, Glenn finds few weed competitors that will compete with alfalfa. Alfalfa Meadows is not a certified organic grower and does use Roundup and 2,4-D amine as preplant treatments, but Glenn finds that several buyers like the fact that the hay is near organic. Glenn has not tried Roundup Ready alfalfa yet but believes it may have a place for the clear-seeded stands on soils known to be weedy.

With 2,000 acres to harvest and thousands of tons of hay to deliver, recruiting and maintaining good help is always a challenge. Glenn presently has 3 to 4 full-time employees with some part-time labor during the harvest season.

Minnewaukan is located southwest of Devils Lake in northcentral North Dakota. Devils Lake has been dramatically increasing in size over the last 13 years swallowing up thousands of acres of what was once good farm land. Glenn is involved with the Devils Lake Basin Water Utilization Test Project, which is a cooperative project to test whether water from Devils Lake can be used for irrigation on nearly 1,000 acres. The concern is that Devils Lake water is known to contain some salts, which prompted closing of the outlet recently opened by the state intended to stabilize the water height. Glenn will have 140 acres of alfalfa irrigated with the freshest lake water over a 3-year period. North Dakota State University will monitor the change in salt content and other soil characteristics.

Glenn is quite fortunate to have highly fertile soils. As a result, he does not need to fertilize and he produces near organic hay. Soils in this area are known to be high in potassium often running 400 to 600 pounds per acre, but phosphorus fertilization is frequently required. Glenn comments, "I've tried phosphorus but haven't seen a response".

Alfalfa stands are harvested two or three times a year depending on rainfall, this last year was very dry and only two harvests were obtained. "We generally try to harvest beginning at the bud stage, but rainfall and the acreage to cover often affect the maturity at which harvest occurs." Hay is cut with a mower conditioner and sometimes double mowers. A Heston 4910 4 x 4 x 8 foot or New Holland 590 3 x 3 x 8 foot bales are used primarily, but a New Holland BR780 5 x 6 foot round net-wrap baler is also used. No drying agent, organic acid preservative, or bacterial inoculant are used since they try to keep their hay near organic.

Forage yields range from 2 tons/acre in dry years like this past year to 5.5 to 6 tons/acre in above-normal rainfall years. All large and medium square bales are stored inside while the net-wrapped round bales are stored outside.