

manure for days? Now you can relax. Because US Farm Systems of Pennsylvania has just designed a unique fill and stir pipe unit. This fill and stir unit sits vertically in over the top of the tank and you use your present transfer pump. You can transfer/fill the manure under the top crust. And since the top crust is not broken you keep all the plant nutrients in the tank. When you get-ready to haul manure, the mixing capability of this unit really goes to work for you. The top opening with a flexable snout moves up and down and sideways to allow you to discharge a stream of liquid in any direction to break up the top crust. At the same time, you can start a stirring action at the bottom of the tank by forcing liquid out the lower opening of this unit. So don't worry if you will get the manure out of your above-ground liquid manure tank any more. Write to US Farm Systems of Pennsylvania, 3053 Barren Road, Oxford, PA 19363. Or call today for an action-packed demonstration. Phone: (301) 398-2948.

## Timely harvest, fertility are keys to alfalfa

LANCASTER - The key to maximizing an investment in alfalfa is good management through timely harvest and fertility maintenance.

The timing of alfalfa harvest, when the weather permits, is critical to achieve the proper balance between highest yield and highest quality. Maximum yields per cutting generally occur near the full bloom stage. Highest quality, however, is reached at a more immature stage, pre-bud.

When deciding on a harvest schedule, most growers should compromise between highest yield and highest quality. Regardless of the time chosen, storage cannot improve forage quality. To produce high quality livestock feed, harvest must occur when quality is high. On the other hand, cutting alfalfa continuously at the pre-bud stage can weaken and

reduce stands, especially in nor- adequate levels helps alfalfa thern areas.

Using a method, or combination of methods, that permits harvest to be completed rapidly is essential to avoid quality and yield loss. In addition, rapid harvest lessens the risk of quality decline due to inclement weather.

Harvesting early, may help conserve soil moisture. Good soil moisture after the first cutting hastens recovery and can make a difference in the second cutting's yield. Also, if recovery of the second cutting is delayed, the second harvest date probably also will be delayed. If delayed too long, there may not be sufficient time or moisture for third or fourth cutting's, reducing total yield for the year.

Every time alfalfa is harvested some of the soil's nutrients are removed. Keeping soil fertility at cell division and other processes.

produce to maximum capacity. One ton of alfalfa hay removes about 60 pounds of potash, 15 pounds of phosphate and 50 pounds of nitrogen. In alfalfa culture, the elements of greatest concern to the grower should be the potash and phosphate since alfalfa, a legume, works symbiotically with certain bacteria to fix its own nitrogen from the atmosphere.

If adequate potash is not present in the field, alfalfa stands quickly degenerate to weeds and grasses. This phenomenon is even more prone to occur in alfalfa-grass mixtures, because grasses can outcompete alfalfa for potash. Alfalfa uses phosphate to a lesser degree than it does potash, but phosphate is equally vital. Phosphate plays a key role in photosnythesis, carbohydrate and protein synthesis,





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