



## Farm Views

### Pesticide Collection March 17

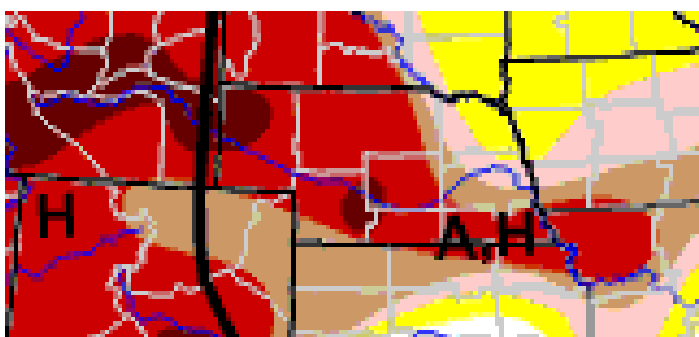
A pesticide disposal collection will be held Monday, March 17, 8 a.m.–Noon at the Farmers Cooperative Company fertilizer plant on North 148th Street, Waverly. All types of pesticides will be accepted except those in pressurized cylinders. Items such as oil, antifreeze, paint, varnish, thinners, cleaners and solvents are not accepted. No appointment is needed and there is no charge for turning in less than 1,000 pounds of pesticides. Pesticides should be brought in their original containers with label intact, if possible. Remember to protect yourself and your surroundings when handling waste pesticides. For more information, contact the NDA at (402) 471-2394, NU's Pesticide Education office at (402) 472-1632, or visit online at <http://pested.unl.edu/pat>.

### Prescribed Pasture Burning School April 4

Pasture management through prescribed burning is an accepted practice in eastern Nebraska. Burning can reduce the number of volunteer eastern red cedar trees, change the mix of cool and warm-season grass species and reduce the thatch buildup and thicken the stand in CRP lands. A prescribed burning school is set for Friday, April 4 at the Lancaster Extension Education Center, 444 Cherrycreek Road, Lincoln. The formal workshop will run from 9 to 11:30 a.m. Weather permitting, a hands-on pasture burn will be conducted in the afternoon. (TD)

### Latest U.S. Drought Monitor Map

As of March 6, Lancaster County is in **severe drought** conditions.



**Drought Impact Types:**  
 A = Agriculture  
 W = Water (Hydrological)  
 F = Fire danger (Wildfires)  
 Delineates dominant impacts  
 (No type = All 3 impacts)

For the most recent map, visit [www.drought.unl.edu/dm](http://www.drought.unl.edu/dm)

## Consider Drought When Preparing Pasture Leases

There are many different types of pasture leases, but the two most common are renting by the acre and renting by the animal unit month (AUM). When renting by the acre, an agreement is struck between landowner and tenant as to the rental rate per acre and the length of time animals can graze. Most per acre rental agreements are for five or six months of grazing. When renting by the AUM, the tenant pays only for the animal units in the pasture and the time they are actually grazing the pasture. Whatever type of lease is chosen, it's best to get leases in writing to avoid possible future misunderstandings.

Renting by the acre for a given grazing period, while definitely the easiest lease to manage in terms of knowing the yearly rental payment, can have a negative side as well. Naturally, the tendency for the tenant is always to try to "get their money's worth," which in a dry year, may result in over-grazing. Over-grazed forage plants can't store sufficient energy to maintain a healthy root system. Weakened plants are more subject to winter injury and surviving plants are slower to green up in the spring. An over-grazed pasture, therefore, is susceptible to invasion by weeds and unpalatable grasses. Dr. Bruce Anderson recently stated, "Many pastures were weakened by last year's drought and may suffer lowered production. Even if there is normal precipitation this year, forage production won't be normal. If renting by the acre, both landowner and tenant should consider the lower productivity and adjust rental rate and stocking rate accordingly."

Renting by the animal unit month requires more record keeping and a higher level of

trust between the two parties, but it is this author's opinion it can be the best way to rent pastures, especially in a dry year. If forage production is less than normal, the tenant does not have an incentive to run as many animals on the pasture or he/she may elect to move the entire herd off the pasture earlier than normal and reduce the rent owed. Rather than an incentive to over-graze, the tenant has an incentive to stop grazing the pasture when the grass gets short and rate of gain diminishes. This will help preserve the long-term productivity of the pasture, which in the long run, is an advantage to the landowner. See the chart below for animal unit months for various types and sizes of animal.

The University of Nebraska Agricultural Economics Department

conducts a real estate survey each spring. The results of the study are published in an extension circular "Real Estate Market Developments" (about 60 pages). Average real estate prices and rental rates are summarized and published in the Cornhusker Economics newsletter (4 pages). These publications can be accessed on the Lancaster County Extension - Agriculture and Acreage Web site at [lanaster.unl.edu/ag](http://lanaster.unl.edu/ag). Scroll down and find the "Answers to Frequently-Asked Questions" section and then look for the heading "Information About Farm Leases/Cash Rents/Real Estate Markets." The newsletter article (summary) is linked to "Land Prices and Cash Rent Survey" and the larger publication is linked to "Farm Real Estate Market 01-02." (TD)

### Animal Unit Values of Various Types and Sizes of Grazing Animal

| LIVESTOCK INVENTORY                  | AU VALUE <sup>1</sup> |
|--------------------------------------|-----------------------|
| <b>Cattle:</b>                       |                       |
| 1,000 lb. beef cow/calf pair         | 1.00                  |
| 1,100 lb. beef cow/calf pair         | 1.07                  |
| 1,200 lb. beef cow/calf pair         | 1.13                  |
| 1,300 lb. beef cow/calf pair         | 1.19                  |
| 1,400 lb. beef cow/calf pair         | 1.25                  |
| Calves by themselves over 3 months   | 0.30                  |
| Weaned calves to yearling            | 0.60                  |
| Yearling cattle (600-800 lb.)        | 0.75                  |
| 2-year old dry cattle (800-1000 lb.) | 0.85                  |
| Mature bulls                         | 1.30                  |
| Dairy cows                           | 1.30                  |
| <b>Sheep:</b>                        |                       |
| Mature ewes with lambs               | 0.20                  |
| Weaned lambs to yearlings            | 0.12                  |
| Mature rams                          | 0.25                  |
| <b>Goats:</b>                        |                       |
| Mature doe with kids                 | 0.17                  |
| Weaned kid to yearling               | 0.10                  |
| Mature buck                          | 0.22                  |
| <b>Mature horse:</b>                 | 1.50                  |

1. From: "Determining Pasture Rental Rates" Publication R-1092, North Dakota State University.

## Answers to Questions About Liming Acid Soils

The following is excerpted from a new Lancaster County Extension educational resource "Answers to Questions About Liming Acid Soils." The complete version is available online at: [lanaster.unl.edu/ag/factsheets/303-03.pdf](http://lanaster.unl.edu/ag/factsheets/303-03.pdf).

**Question: My soil test report shows a number for pH and another number for buffer pH. What does pH measure and what is the difference between pH and buffer pH?**

Answer: pH is a measure of the acidity or alkalinity of a soil. When the soil solution (the water in the soil) contains equal numbers of hydrogen ions (H<sup>+</sup>) ions as hydroxyl (OH<sup>-</sup>) ions, the soil is neutral and the pH of the soil is 7.0. When there are more H<sup>+</sup> than OH<sup>-</sup> ions, the soil is acidic, and when there are more OH<sup>-</sup> ions than H<sup>+</sup> ions, the soil is alkaline. The scale is logarithmic. That is to say a soil with a pH of 6.0 is 10 times more acidic than a soil with a pH of 7.0. A soil with a pH of 5.0 is 10 times more acidic than a soil with a pH of 6.0 and 100 times more acidic than a soil with a pH of 7.0.

Soil acidity can be thought of as two types: active or soil solution acidity and reserve or exchangeable acidity. The active acidity of a soil is measured directly by a pH meter in the lab.

Reserve acidity depends on several factors, such as amount and type of clay, amount of organic matter and soluble aluminum concentration in the soil. Therefore, two soils can have the same measured pH, but will require different amounts of lime to change the pH value and correct it back to a more neutral pH.

A chemical test using a buffer, is performed in the laboratory to determine the amount of calcium carbonate equivalent (CCE) necessary to raise the soil pH to a desired level. This buffer solution reacts with the soil to neutralize both the active and reserve acidity. The change in the pH of the buffer can be measured and correlated to the amount of lime needed per acre to obtain the same results in the field. This is reported on the soil test report as buffer pH. A rule of thumb for buffer pH values is, for every 0.1 point below pH 7.0, it takes

about 1,000 pounds of ag lime (60% CCE) to bring the top seven inches of soil (about two million pounds of soil) up to a measured pH value of 6.5 (6.5 is considered the ideal pH for most crops).

For example a soil with a buffer pH of 6.3 would require  $(7.0 - 6.3) = 0.7$ . Multiply 0.7 by 1,000 pounds per tenth = 7,000 pounds of ag lime per acre to bring the pH value up to 6.5. If the lime is incorporated deeper than seven inches, larger amounts of lime are required to neutralize the acidity because you are affecting a greater mass of soil.

**Question: Are there differences in lime quality?**

Answer: There are differences in lime quality due to the chemistry and particle size distribution of the product used. The ag lime that is commonly available in eastern Nebraska is a mixture of calcium carbonate and magnesium carbonate plus impurities. Both calcium carbonate and magnesium carbonate are effective in neutralizing pH.

Limestone is not very soluble and, therefore, needs to

have a small particle size to dissolve into the soil solution quickly enough to be considered effective. NebGuide G84-714 indicates limestone held on an eight-mesh screen (the size of gravel) is less than 10% effective, whereas that passing an eight-mesh screen and held on a 60-mesh screen (like coarse to fine sand) is about 40% effective, and that passing through a 60-mesh screen (like gritty flour) is 100% effective.

Lime is tested and the neutralizing effectiveness is expressed as calcium carbonate equivalent (CCE). Most labs will recommend lime requirement as pounds per acre of CCE. Lime suppliers in Nebraska must register with the State Department of Ag and the minimum CCE value must be specified. Most ag lime in Nebraska runs between 60-65% CCE. Therefore, if a lab recommends 3,000 pounds of CCE to raise the pH to 6.5, and a lime source having 60% CCE is used, it would take:  $3,000 \div 0.60 = 5,000$  pounds of that particular lime to meet the recommendation.

**Question: Could I apply**

**less than the recommended amount of lime and still do some good?**

Answer: University of Nebraska lime recommendations are for the amount of lime required to bring the top seven inches of soil up to a pH of 6.5. Less lime will not bring the pH level up as much but will prevent it from going lower for a time and may raise it some (depending on the amount applied). An analogy would be the decision to fill the gas tank on the pickup which might take \$25 or only to put \$10 worth of gas in the tank. Either decision will help you get down the road, but you won't go as far on \$10. Remember also, operators charge by the acre to spread lime. If, for example, one applies one-third of the recommended amount but then must do it three times as often, the total cost will be higher than if it were applied in one operation.

Basically, there is no way around the laws of chemistry. It takes a given amount of lime to neutralize the active and reserve acidity in the soil and bring the measured pH up to an acceptable level. (TD)