

LIMESTONE EFFECTIVE NEUTRALIZING VALUE SCORE CARD

The information needed for the calculations on the limestone effective neutralizing value (ENV) is shown on the label or on/with the delivery sheet for bulk spread limestone. For examples of the calculations of the limestone effective neutralizing value, see back of this page.

Instructions

1. Enter the percentage of limestone passing a 100 mesh sieve on line 1 and again on line 2b; express both as a decimal (% divided by 100).
2. Enter the percentage of limestone passing a 20 mesh sieve on line 2a; express as decimal (% divided by 100). Subtract line 2b from 2a and enter on 2c. Multiply value of 2c by 0.60 and enter on 2d.
3. The fineness score is the sum of the values on line 1 and 2d. Enter on line 3, the fineness score is expressed as a decimal; to obtain percent multiply by 100.
4. Enter the **total neutralizing value** on line 4; express as a decimal (% divided by 100).
5. The **effective neutralizing value** of the limestone is then calculated by multiplying the fineness score from line 3 by the total neutralizing value on line 4. Enter on line 5.
6. Enter the cost per ton of limestone on line 6.
7. To determine the cost of a ton of effective liming material, divide the cost per ton on line 6 by the effective neutralizing value (expressed as a decimal) obtained on line 5. Enter effective cost on line 7.

Score Card

- | | | |
|----------------------------------|----------------|---------|
| 1. Percentage passing 100 mesh | | _____ |
| 2. A. Percentage passing 20 mesh | _____ | |
| B. Percentage passing 100 mesh | - _____ | |
| C. Percentage passing 100 mesh | _____ (x 0.60) | |
| D. 20 to 100 mesh reaction | | + _____ |
| 3. Fineness Score | | _____ |
| 4. Total Neutralizing Value | _____ | |
| 5. Effective Neutralizing Value | | ===== |

Cost Effectiveness

- | | | |
|---|--|-------|
| 6. Cost per ton of limestone | | _____ |
| 7. Cost per ton of effective neutralizing | | ===== |

LIMESTONE EFFECTIVE NEUTRALIZING VALUE SCORE CARD CALCULATIONS

Limestone #1	Limestone #2
*Total Neutralizing Value . . . 78.75% CaCO ₃ Equivalence	*Total Neutralizing Value . . . 104.3% CaCO ₃ Equivalence
Minimum CaCO ₃ Derived From Magnesium Sources . . . 33.25% CaCO ₃ Equivalence	Minimum CaCO ₃ Derived From Magnesium Sources . . . 52.2% CaCO ₃ Equivalence
Fineness	Screen Test
*98% by Weight Passing 20 Mesh	*98% through 20 Mesh
*70% by Weight Passing 100 Mesh	80% through 60 Mesh
	*75% through 100 Mesh

Figure 1. The information was obtained from labels on bagged limestone materials. The lines preceded by an * are those needed in the evaluation of agricultural limestones by the limestone effective neutralizing value score card. Note that other information may be contained on the label.

<u>Limestone #1</u>		
1. Percentage passing 100 mesh		0.70
2. A. Percentage passing 20 mesh	0.98	
B. Percentage passing 100 mesh	- 0.70	
C. Percentage passing 100 mesh	0.28	(x 0.60)
D. 20 to 100 mesh reaction		+ 0.168
3. Fineness Score		0.868
4. Total Neutralizing Value	0.7875	
5. Effective Neutralizing Value		0.684

Cost Effectiveness

6. Cost per ton of limestone	\$15.00	
7. Cost per ton of effective neutralizing		\$21.94

<u>Limestone #2</u>		
1. Percentage passing 100 mesh		0.75
2. A. Percentage passing 20 mesh	0.98	
B. Percentage passing 100 mesh	- 0.75	
C. Percentage passing 100 mesh	0.23	(x 0.60)
D. 20 to 100 mesh reaction		+ 0.138
3. Fineness Score		0.888
4. Total Neutralizing Value	1.043	
5. Effective Neutralizing Value		0.926

Cost Effectiveness

6. Cost per ton of limestone	\$18.00	
7. Cost per ton of effective neutralizing		\$19.43