

How Lime Works

Have you ever wondered how lime neutralizes soil acidity? It does this by inactivating or 'tying up' the excess hydrogen in the soil. Calcium carbonate (CaCO₃) dissolves slightly to release some calcium (Ca) and some carbonate (CO₃). The carbonate (CO₃) combines with the excess hydrogen (H) in an acid soil to form carbonic acid

(H₂CO₃). Carbonic acid is unstable and splits apart to form carbon dioxide (CO₂) and water (H₂O). Therefore, by this process, we have taken acid-forming hydrogen out of the soil system and combined it into a neutral, inactive water molecule.

When limestone neutralizes soil acidity, the calcium in the lime replaces the hydrogen on the surface of soil particles. But, calcium does not neutralize the acidity. As pointed out previously, it is the carbonate in the lime that inactivates the excess hydrogen.

The most important benefit of liming is that nearly all agronomic crops can be produced more efficiently when the soil pH is 6.5 to 7.0. In long-time studies in Wisconsin, we found that liming a soil with a pH of 5.2 resulted in yield increases of 40 percent for corn, 2 percent for oats, and 67 percent for alfalfa. Research in Iowa and Ohio indicates that maximum yield of corn, oats, and alfalfa are attained when the soil pH is about 6.8 to 7.0.

Liming acid soils improves crop yields primarily because

1. Microorganism activity is enhanced. This results in more rapid release of nitrogen, phosphorus, and sulfur from decomposing organic matter, and in more efficient nitrogen fixation by legume plants.

2. Nutrients, such as phosphorus and molybdenum, are more available at a pH of 6.5 to 7.0.

3. Elements, such as iron, aluminum, and manganese, which are apt to be toxic in acid soils, are not a problem when soil is limed.

NEW YORK — The civil disorders that raged across the nation during the summer of 1967 caused insured losses of more than \$64 million, the Insurance Information Institute reports.

Quiz

ON TRAFFIC SAFETY

(A 5-question quiz on traffic safety from the Pennsylvania Bureau of Traffic Safety published through the cooperation of this newspaper)

1. In 1967 there were 2112 fatal accidents. Of these, approximately.....percent of the offending drivers involved were 24 years of age or younger.

- (a) 24 (b) 30 (c) 36 (d) 41

2. While women drivers are the brunt of many jokes, statistics for 1967 reveal that of the 2112 offending drivers in fatal accidents, only.....were female.

- (a) 252 (b) 313 (c) 412 (d) 613

3. Not one of Pennsylvania's 67 counties escaped without a traffic fatality in 1967. Only one county was able to hold traffic fatalities to one death. That county was.....

- (a) Clinton (b) Huntingdon (c) Potter (d) Forest

4. Under the recently passed legislation on "implied consent", an operator of a motor vehicle will be presumed to be under the influence of alcohol if properly conducted tests indicate the alcohol content of his blood to be.....

- (a) .10 (b) .12 (c) .15 (d) .18

5. School's now in session. The speed limit for automobiles, when passing a school building during recess, or while children are going to or leaving school during opening or closing hours is.....miles per hour.

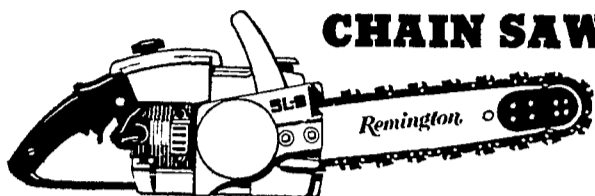
- (a) 10 (b) 15 (c) 20 (d) 25

Answers: 1-c, 2-b, 3-d, 4-a, 5-b

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Prevent Ice Buildup

If water got into your house or any other building during recent heavy rains, it might be because the eaves and downspouts were clogged with leaves. With buildings under or near trees, this could easily happen and should be given some attention before serious damage is done. Also, I'm aware of the possibility of ice building up along the edge of the trough, or filling the downspouts, and causing water to enter the building. Zigzagging a heating cable along the edge

of the roof or the spouting helps prevent ice buildup, it may be run through the downspouts to keep them clear of ice, they need to be turned on only when the ice is forming. Some safety precautions must be observed. Fasten it firmly with clips, make sure it is grounded, and don't cut standard cable lengths. These safety items are true with any heating cable at any place.

What do we live for, if it is not to make life less difficult to others? — George Eliot

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