

Things to Learn About Phosphorus

Phosphorus can be applied effectively in this area at any time except when the soil is frozen or serious soil erosion is taking place. Early spring or fall is generally the best time, in the opinion of University of Idaho soils specialists. Phosphorus is not leached from the soil. The important thing is to have it in the earth so plants can use it when needed.

Three methods are used: broadcasting and working the material into the top three or four inches of soil, broadcasting and plowing under, and placement of fertilizer in bands two to six inches deep, either in seeded prior to seeding or in the side of a row immediately after seeding or at first cultivation.

Experimental work shows all methods about equal. Use the one that is most convenient.

The bulletin—"What Farmers Should Know About Phosphorus"—published by the U of I extension service, says phosphorus is one of the nutrients plants must have for growth.

The amount of phosphorus available for plant use varies in different parts of this area. It depends on the soil, length of time the crop has been cropped, and the amount of phosphate applied. When yields are increased by the use of other fertilizers—for example, nitrogen—more phosphorus is used by plants. This results in more rapid depletion of the soil phosphorus, and may mean a phosphorus deficiency will develop where there is no shortage now. Crops remove phosphorus every year. This must be replaced by commercial fertilizers if production and quality are maintained or increased.

Forage grown on soils with enough phosphorus is eaten more readily by livestock than forage on soils low in phosphorus.

Studies Show Fertilizer Use Can Be Profitable on Meadows and Pastures

An acre of average mountain meadow or pastureland has the nutrient value to produce about \$28 worth of beef at 20 cents a pound. Fertilization, plus good water and harvest management, can increase this figure to \$104.80 worth of beef an acre—a gain of \$76.80 an acre.

These remarkable productivity figures resulted from special Intermountain area studies sponsored by United States Steel, a leading western fertilizer producer, working with ranchers and agricultural agencies throughout this region. Many of these studies are presented in the now-available, new U. S. Steel movie, "Profit on the Mountain."

These and many other current research studies are being motivated by a growing concern among mountain state agricultural experts about the competitive forces which today face ranchers and beef growers in this area.

Salt Lake City agronomist Dr. Roy C. Lipps, in a talk before the Intermountain Range and Fertilizer conference at Fort Collins, Colo., late in February, pointed up this problem when he said:

"Beef is being grown cheaper and cheaper as other sections of the country find that well managed grassland and profit are synonymous. On the other hand, in many parts of the Intermountain West, I hear of declining range and meadow yields and grazing allotment reductions or restrictions."

According to most experts, the solution to this problem can only be found in more modern techniques of range management that can sharply increase the tonnage of beef produced per unit of land.

Among the various management practices cited for making land give a bigger return at the lowest

cost, adequate fertilization heads the list of effective steps that can be taken. And, in the Intermountain area, nitrogen is the fertilizer most often needed in a range or grassland improvement program.

Typical of the increased yields that can be realized through the use of nitrogen is a case study reported from Idaho last January by John Niebergall, district forest ranger. After applying about 40 pounds of nitrogen per acre to test plots of seeded ranges, he reported that the fertilized grass produced 7,520 pounds of air-dried hay per acre while the unfertilized produced 3,235 pounds per acre. Production, he reported, was 2 1/2 times greater on the fertilized area and the production of protein was even slightly greater.

In another typical test, using correct harvest and proper irrigation, nitrogen boosted hay yields at the first cutting from three tons per acre to four tons. When the regrowth was also treated with nitrogen, it yielded an additional one-fourth of hay per acre—a total increase of 1 1/2 tons per acre. And, heavy nitrogen applications have actually increased hay yield three tons per acre.

Research has repeatedly shown that a program of fertilization, along with water control and two-crop harvesting, can boost the carrying capacity of the average mountain meadow or pasture by four times. This means that an acre of land which, under conventional range practices, supported one cow only a hundred days, can produce enough to carry four cows for the same length of time. This assumes that water is controlled and correct harvesting practices are followed.

Through such a program, farmers and ranchers can boost production per acre by three or four times and their profits even more.

Nitrogen Testing For Crop Needs

The most satisfactory way for farmers to tell whether their crops need nitrogen is a combination of several methods, say University of Idaho agricultural specialists. Pale green or yellowish color and stunted growth is an indication of lack of nitrogen. Soil tests show the amount of total nitrogen and the amount of available nitrogen at the time the sample is taken. They do not indicate the ability of a soil to supply nitrogen during the growing period.

Under continuous cropping, all growing plants and micro-organisms use most of the nitrogen available. Therefore, there is little accumulation of nitrogen under these conditions. Under summer fallow conditions, a test for available nitrogen can be used as an aid in determining nitrogen needs.

A simple method for testing on the farm is to skip a strip in the field when applying nitrogen. This strip will show what the yield would have been without extra nitrogen. On another strip make two trips with the spreader. This doubles the application and shows

whether a heavier application would have been better.

Rates of nitrogen fertilizer depend on nitrogen fertility already in the soil, crop grown, and yield expected. Nitrogen fertility is governed primarily by crop rotation, crop residues plowed under, green manure used, livestock manure applied, soil organic matter, and soil type. The yield expected will depend on area, climatic conditions, soil conditions, good seed, desired plant population, irrigation practice, and other phases of good management.

One should apply just enough nitrogen so it will no longer be the factor restricting yields. If poor irrigation practices are restricting yields, nitrogen applications above this level of production as costly and on many crops will reduce quality desired. If a farmer can produce only 300 sacks of potatoes due to some management factor other than fertility, he shouldn't fertilize for a yield of 400 sacks. Quality of product will be damaged and the fertilizer dollar spent unwisely.

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Good Soil Test Said A Wise Investment

A good soil test, used correctly, says the county agent, can tell a farmer many things. Is the soil too acid or too alkaline for certain crops? Do you need phosphorus, potash or sulfur to balance soil fertility? Is the organic matter at a level that will give good soil structure for aeration and water penetration? Does your soil have too much salt or too much alkali for good crop production? A soil test can help you with the answers.

Soil testing is available through the extension service, and the county agent can tell you the method of collecting and handling soil samples, cost of analysis, and other detailed information.

He can also help with facts about fertilizer materials for your farm. Many new fertilizers have come on the market in recent years. Farmers have a wide selection. Knowing the characteristics of these materials will aid farmers in choosing the best fertilizers for their soils.



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Buy Lawn Seed After Checking

Home owners hoping to save money when they seed lawns this spring may find higher priced grass seed more of a bargain than seed with a low price tag, cautions Harold E. Finnell, Oregon State college extension seed certification specialist.

So-called "bargain" lots of seed often are sold at reduced prices. But if seed is cheap there's probably a reason—poor growth rate, a lot of weeds, a small amount of pure grass seed, or perhaps it's a variety not adapted to the area.

Finnell urges buyers to be extra careful about buying grass seed with much weed seed in it. He pointed out that a seed bag containing one-quarter of one percent (0.25%) weeds—a relatively small amount—has enough to sow five or more weeds per square foot.

Buyers can compare labels on different lots of grass seed to make sure they're getting the bargain they think they are, he said. Labels are required to tell percentage of pure seed, germination (growth) rate, percentage of weed seeds, other crop seeds and inert matter.

Some varieties of grasses grow better in shaded areas than in lawns where there is little shade, Finnell explained, so it is wise to ask the seed dealer or county extension agent about the variety best for your lawn.

If "bargain" seed has a lot of weeds or is not suited to your soil, it will cost more in the long run than more expensive seed.

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Farmer X Used 50 lbs. 'N' on Potatoes, Harvested 200 Sacks per Acre Farmer Harold Iverson Used Recommended Amounts of Fertilizer and Harvested 350 Sacks of Potatoes per Acre

"I've learned by experience that higher rates of fertilization mean higher yields and more profits." That's the statement of Harold R. Iverson of Caldwell, Idaho. Last year, he used recommended rates of fertilizer and harvested 350 sacks of potatoes per acre and 30 tons of sugar beets per acre. Are you using recommended amounts of fertilizer? United States Steel, manufacturer of USS Nitrogen Fertilizer, has published a handy, new guide of fertilizer recommendations for Idaho. This chart, based on suggestions of the University of Idaho, is available to farmers. Merely write to United States Steel, 919 Kearns Building, Salt Lake City, for your chart. Recommendations take into consideration the various areas, crop program and other factors. The chart also is available from your local dealer. Use enough fertilizer, harvest more dollars. And insist on USS Nitrogen Fertilizers. Remember, It takes N, Men—in the proper amounts. Order USS Nitrogen Fertilizers from your dealer today. Follow recommended practices and join the ranks of farmers who get more yields with proper management methods. USS Nitrogen Fertilizers

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