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Fertilizer Facts -- Our agriculture will always need quite large amounts of nitrogen, phosphorus and potassium for fertilizer production. Nitrogen, the most abundant and perhaps the cheapest element, hasn't been available in quantity until now. Yet, it surrounds us all the time--four fifths of the air is composed of this element. Legumes get part of their nitrogen from the air. As cropping and erosion has slowly depleted our soils of nitrogen, production facilities have been improving to supply the huge amounts we need. So nitrogen now is available to us as a solid, as a liquid, as a gas--with concentrations ranging from 16 to 82 per cent. At the University of Minnesota, we are now learning new ways to use this greater nitrogen supply. This report comes from John M. MacGregor, a University soils professor.

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Alfalfa Fertilizing Systems -- Up at the University's Rosemount Station near Minneapolis, Agronomist Wallace W. Nelson has achieved "highly significant yield increases" during three years when potash was included in a fertilizer used on alfalfa fields. Highest yield for the three-year period, which began in 1952, was 13.5 tons. About 1,000 pounds of 0-20-20 was put on in the spring before seeding and top-dressed with 200 pounds of 5-20-20 the second and third years. The yield of nearby unfertilized plots of the same type of grass was four tons an acre less--about 9.5 tons. Nelson, now at the Northeast Experiment Station in Duluth, compared eight different fertilizer treatments and found it made little difference putting them on in spring--or in the fall.

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How to Control Brush in Pastures -- There are about $3\frac{1}{2}$ million acres of woodland pasture in the state. They're very low producers, of course. Studies show that the amount of forage produced per acre can be increased as much as five times by just taking out trees and brush. One way to do this is by using herbicides. According to University of Minnesota Extension Agronomist Edwin H. Jensen, they can be put on with a ground sprayer or by airplane. There's a lot of difference in the effectiveness of spraying, of course, and it depends on what kind of brush you treat and what the field conditions are. Several species of brush have been checked by using two to three pounds acid equivalent per acre of 2,4,5-T or a mixture of 2,4-D and 2,4,5-T. To get the best results, such applications should be put on when the brush is growing most rapidly.

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