

USDA Scientists Study Carryover Of Nitrogen

Heavy application of nitrogen fertilizer not used by the first crop in a season isn't all lost by leaching. Instead carryover nitrogen may significantly benefit a second or even third crop, USDA research shows.

Available nitrogen in the soil—unused by the previous crop—has been given little consideration in making fertilizer recommendations. However, accuracy of fertilizer-need estimates could be improved by taking this residual nitrogen into account.

Such nitrogen could also be used by a winter cover crop seeded after the fertilized crop is harvested.

ARS soil scientists point out that a significant amount of nitrogen remains after the first crop only when application rates are high. Tests were made on widely different soils at seven locations.

On some plots, nitrogen fertilizer was applied in late fall, and corn was planted the next spring. Other plots were fertilized in the spring just before the corn was planted. After corn harvest, all plots were seeded to wheat or oats as a winter cover crop, which was followed by a second corn crop in the spring. No additional nitrogen was applied on either the winter crop or the second corn crop.

Carryover effects of spring- and fall-applied nitrogen were measured on the winter cover crop and the second corn crop. Yields of fertilized plots and unfertilized check plots were compared.

Spring Treatments Best

Spring applied ammonium nitrate, 200 pounds per acre, increased average small grain dry forage yields 1,600 pounds and second corn crop yields 19 bushels per acre.

Fall-applied nitrogen increased small grain forage yields only 490 pounds per acre. The carryover effect of fall-spread nitrogen fertilizer

on the second planting of corn was negligible 1½ years later.

Fall application also gave lower yields than spring applications on the corn crop to which the nitrogen was applied. The scientists calculated—on the basis of results from all tests—that all application is only 19 percent as effective as in spring in increasing yields of corn.

Response to fall fertilization varied considerably between years, and was consistently greater in some locations than others.

These variations cannot be explained by differences in surface-soil texture or subsoil permeability, researchers say. Nor are the variations directly related to total amount of winter rainfall, runoff water, or water percolation into soil.

The scientists do suggest, however, the greatest losses of nitrogen from percolation in winter may occur during mild weather that permits microbial activity.

In addition to ammonium nitrate, plots were fertilized with either anhydrous ammonia, urea sodium nitrate or ammonium sulfate. No nitrogen source was consistently superior or inferior to others in the tests.

● Crop Summary

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Year when the two crops grew faster. Some tobacco crops have just been planted, but in most areas the crop is on to a good start.

Tomato growth almost at a standstill during the dry weather early in June, are making excellent growth and picking of the staked crop has started in the Washington Boro area.

While Lancaster County has adequate soil moisture, most Pennsylvania farmers are still looking hopefully for much needed rain. The central and northeastern sections of the state seem to be hardest hit. Altoona and Scranton reporting more than five inches under normal.

The State Crop Reporting Service said in its weekly crop and weather summary that only three weather stations—Erie, Reading and Philadelphia—report more than normal rainfall for the growing season.

Housewives learned that sweet cherries were becoming plentiful at fresh market

stands. Sour cherry picking is in full swing this week. Peach and apple growers report good fruit sizing and Erie grape vineyards are showing a good set.

A few fields of sweet corn are tassling in the south. Strawberry picking was in progress in the north but tapering off in central and southern areas. Tomatoes are beginning to form on vines and snap beans were coming into blossom.

Barley combining started in central and southern counties. Wheat was very near harvest in the south, and combines have already been through some fields. Corn was pushing well in northern areas with a few fields knee high. Most of the state's oat crop is forming heads. Hot and dry weather caused rapid maturity of field crops.

Hay fields and pastures continue to remain short. Hay quality was reported fair to good.

While Philadelphia had four inches of rain during the week ending June 25, Pittsburgh reported only a trace.



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NEW WHEAT APPLICATION DEADLINE IS JULY 2

Farmers who wish to be considered for a "new wheat farm" allotment for 1963 on a farm which does not have a wheat allotment should get in touch with the Agricultural Stabilization and Conservation Service County Office right away. Fred G. Seldomridge, Chairman of the Lancaster County Agricultural Stabilization and Conservation Committee, said today. Such farmers have until July 2 to file applications for such an allotment.

Under the wheat allotment marketing quota program, a "new farm" is a farm on which there is no wheat acreage history, including acreage considered as wheat under the Conservation Reserve, for any of the years 1960, 1961, or 1962.

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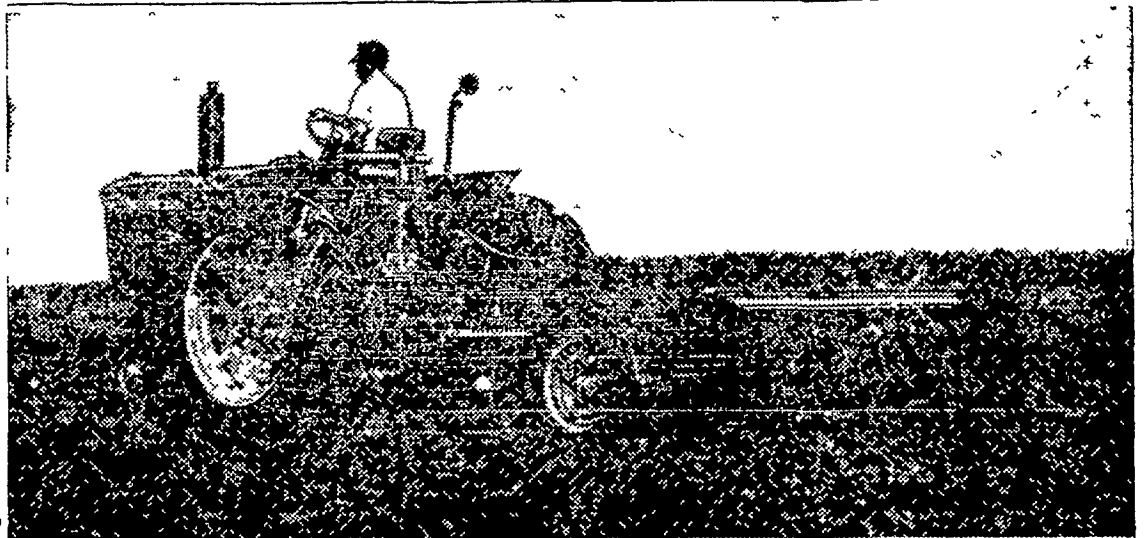
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