

VegNet Vol. 8, No. 2, January 29, 2001

2001 Ohio Vegetable Production Guide - Now Available
R. Precheur

New to the 2001 edition are:

Tables on Efficacy of Insecticides for just about every crop.

Updated chapters on weed control and cabbage. The guide also contains the latest pesticide updates, new information on ICM, and on selection and timing of pumpkin fungicides.

The bulletin is available through your local extension office or through:

Janis Cripe,

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Columbus, OH 43210,

at 614-292-1607,

email: cripe@postoffice.ag.ohio-state.edu

The base price is \$4.50 to which you must add taxes and postage. Ask for Bulletin # 672.

More Research Reports Now Available - See Below Available!

R. Precheur

Four new research reports were posted on the VegNet website, the week of Jan. 23, from Mark Bennett, Elaine Grassbaugh and Matt Kleinhenz.

1. Organic vs Inorganic Mulches for Heirloom Tomatoes E. Grassbaugh

2. Paclobutrazol Seed Soak for Height Control in Vegetable Transplants - Powerpoint Slide Set PPT file,

WARNING!! The Above Slide set is 4 Megs and could take very long to download. For more information, email Mark Bennett: bennett.18@osu.edu

3. Cabbage Research Report- PDF file,

4. Muck Crops Report- PDF file,

The above 2 reports require Adobe Acrobat Reader to view or print. For more information, email Matt Kleinhenz kleinhenz.1@osu.edu

Visit the VegNet homepage or the Library to access these reports.

Fertilizer and Natural Gas,

Prepared by The Fertilizer Institute, January 2001

Here is a piece that will help you understand what is happening in the world of nitrogen fertilizer.

Contact: Ron Phillips, 202-608-5903,

Kathy Mathers, 202-608-5906

Many farmers recently have been asking about increases in the price of some fertilizers and how to plan for the upcoming crop year. A sharp rise in the cost of natural gas has pushed the cost of production of many nitrogen fertilizers higher than the prices those products are bringing in the marketplace, making it uneconomical to produce these products. These increased gas costs have fueled some increase in nitrogen fertilizer prices, and many industry observers believe the spring planting a time of high demand will exacerbate the situation. Farmers should consult with their suppliers as soon as possible to plan for the spring season. Following is an explanation of the role natural gas plays in the cost of producing fertilizer.

Higher gas prices drive up the cost of producing fertilizer. The major cost component of making nitrogen fertilizer products is natural gas. The production of anhydrous ammonia is the first step in the manufacture of nearly all nitrogen fertilizer made in the United States. In addition to being a product farmers can apply directly to the soil, ammonia also is the basic building block of other nitrogen fertilizers, including ammonium nitrate, urea, nitrogen solutions, ammonium sulfate and ammoniated phosphates such as diammonium phosphate (DAP) and monoammonium phosphate (MAP). According to the U.S. Department of Commerce, 17.34 million short tons of ammonia were produced in calendar year 1999, with 88 percent of this total going to produce fertilizer. According to The Fertilizer Institute's 1999 production cost survey, the production of one ton of ammonia requires an average of 33.5 million British Thermal Units (MMBtu the standard measure of thermal energy in the U.S.) of natural gas. Therefore, an estimated 580 trillion Btu's of natural gas were used in 1999 for ammonia manufacturing, consuming about 3 percent of the total U.S. natural gas production. This estimate does not include the natural gas used as a fuel in processing other fertilizer products, and some observers believe the fertilizer industry's total use could represent up to 4 percent of U.S. natural gas production. Since January 2000, spot prices for natural gas have increased sharply, from approximately \$2.35 per MMBtu to an average of more than \$8.00 for the month of December, 2000. This unprecedented increase was unanticipated by most energy industry observers. Several organizations have expressed concern about the impact of severe winter weather on prices, and have called for an investigation by either the Department of Energy or the Federal Energy Regulatory Commission.

This runup in the cost of natural gas has a dramatic impact on the production cost of ammonia and other fertilizer products made with ammonia. At \$2.19 per MMBtu, the cost of producing a ton of ammonia is about \$100, with gas being 72 percent of the cost of production. At \$4.50 per MMBtu, the cost rises to about \$180, with gas being 84 percent of the cost of production. At \$10.00, the cost of production rises to \$363. Without a comparable increase in fertilizer prices, the price of natural gas creates pressure for fertilizer producers to curtail production because they cannot recover their manufacturing costs. Ammonia producers have two alternatives in this situation. They either produce at a loss or curtail production. A combination of

lower gas prices and/or higher prices for fertilizer products would once again create an economic incentive to resume production.

Ammonia producers can and do attempt to protect themselves to some extent from dramatic increases through natural gas hedging programs. This has provided some producers protection against the sharp rise in natural gas prices. Nevertheless, a simple averaging of the spot delivered-to- pipeline price of natural gas for calendar year 2000 results in a price of \$4.46 per MMBtu. In the absence of hedging programs, U.S. producers would have paid an average price near this level in 2000. This figure is 104 percent higher than the average price paid in 1999, and a continuation of high gas prices will exacerbate this situation.

Since fertilizer is a commodity business, the world market sets the price for fertilizer products. Fertilizer producers are price takers and increased costs like those currently being experienced by the U.S. fertilizer producers cannot simply be passed on through the price of the product. This results in a severe disadvantage for U.S. producers, since many fertilizer manufacturers outside the U.S. currently have lower natural gas costs resulting in lower production costs for ammonia and nitrogen fertilizers. In many other major fertilizer exporting regions and countries, the natural gas industry is either owned, operated and/or regulated by central governments. Gas prices in many other ammonia producing regions are currently below \$1.00 per MMBtu. During the past year of escalating costs, imports of ammonia and nitrogen products into the United States have increased while exports have decreased. These trends are expected to continue as long as gas costs remain high. Why gas prices have increased

The dramatic increase in gas prices appears to have resulted from a combination of two factors:

1. Higher Gas Demand.

Higher demand for natural gas results from the combination of the nation's long-running economic boom coupled with environmental policy that encourages use of natural gas by electric utilities. As the nation's economy has grown, demand for electric power has increased at an annual rate of approximately 4% per year. This new demand has led to a wave of new power plant construction, particularly by the nation's independent power producers. For a variety of reasons pertaining both to law (clean air act requirements) and economics (improved efficiency of gas turbines), the vast majority of the new plants are utilizing natural gas as their fuel source. The Energy Information Administration has estimated that approximately 92% of the capacity now under construction are expected to be gas-fired. As a consequence, the EIA expects the demand for natural gas for use in power generation to increase from approximately 3.7 Tcf in 1998 to approximately 9.3 Tcf in 2020. The early effects of this new and increased demand are now being seen in the marketplace; summer air-conditioning is quickly becoming a gas-intensive activity.

2. Fragile Supply Situation.

With natural gas prices in the range of \$2.00 per MMBtu for the past several years, gas producers had little incentive to develop new supplies. Unlike the members of OPEC, domestic gas producers are not withholding a portion of their production in the hope of increased prices. Rather, during the summer of 2000, they produced and

sold gas at very close to their full capacity. The gas that was not produced was injected into storage in preparation for the winter heating season. However, because of the higher demand discussed above, the United States entered the winter heating season with lower than normal inventories, and the severe cold most of the country has experienced this winter is rapidly draining those inventories.

Outlook for gas prices

Based on the foregoing discussion, it appears that the price of natural gas will remain high, at least in the near term. However, there are several measures, which may help in slowing or reversing the trend in natural gas prices. Efforts should be made to facilitate new supply, including the opening of new areas of exploration, special tax incentives for natural gas exploration and development and the construction of additional pipeline infrastructure. Given the increasing demand for electricity, it is also important to support the use of technologies other than natural gas, including nuclear, coal and biomass technologies.

As long as high prices for natural gas prevail, there will be pressure on fertilizer producers to curtail production. A combination of lower gas prices and/or higher prices for fertilizer products would once again create an economic incentive to resume production.

Winter Vegetable Calendar

Feb. 5 Employee Management and Retention for the Green Industry, Dr. Bernie Erven, Maumee Bay Brewing Company, Toledo, Contact: Amy Stone, OSU Extension, Lucas County, 419-213-4254

Feb. 7-9 Ohio Fruit & Vegetable Growers Congress and Ohio Roadside Marketing Conference, Seagate Center, Toledo, Contact: John Wargowsky, OVPGA Executive Director, 614-249-2424, jwargows@ofbf.org

Feb. 27-28 Greenhouse Engineering Workshop-Environmental Controls, OARDC, Wooster, Ohio, Contact: Peter Ling, Assistant Professor, Ohio State University, 330-263-3857, ling.23@osu.edu

What's New At The VegNet Web Site

See last week's newsletter for Pictures of cucumber beetle feeding on pumpkin rind. (VegNet #27, Sept. 13, 2000)

In Problem of The Week, see:

- * Bird Damage to Pumpkin Fruit
 - * Fusarium Belly Rot
- Coming Soon...
- * Gummy Stem Blight
 - * Downy Mildew

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We appreciate very much the financial support for this series of vegetable reports which we have received from the board of growers responsible for the Ohio Vegetable and Small Fruit research and Development Program. This is an example of use of Funds from the "Assessment Program".

Where trade names are used, no discrimination is intended and no endorsement by Ohio State University Extension is implied. Although every attempt is made to produce information that is complete, timely and accurate, the pesticide user bears the responsibility of consulting the pesticide label and adhering to those directions.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Keith L. Smith, Director, Ohio State University Extension.

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