

# NEBRASKA POTATO EYES

## Keeping an Eye on the Nebraska Potato Industry

Vol. 1, Issue 4  
December, 1989

Alexander D. Pavlista, Editor  
Extension Potato Specialist

### Editor's Note

On December 14-15, 1989, there will be a "Nebraska Potato Focus" at the Panhandle Research and Extension Center, Scottsbluff, NE. This one and a half day meeting will be on major current and future pests in Nebraska and Wyoming potato production. Speakers will include Gary Hein (insects), Eric Kerr (diseases), Bob Wilson (weeds), Gary Leever (certification limits), Bob O'Keefe (potato development), and myself (pest surveys). Delmar Raybould, of the National Potato Promotion Board, will be a guest speaker. There will be exhibitors representing the ag chemical and ag equipment industries. The annual Christmas dinner get together is planned for Thursday (12/14), poolside, at the Scottsbluff Inn. On Friday afternoon, the Nebraska Potato Development Board and the Potato Certification Association of Nebraska will be holding meetings. You should have received your pre-registration packages and, hopefully, registered. If you know someone who has not been reached, let me know.

The following article, "Estimated Impact of the Potato Industry on Nebraska", was prepared to make people aware that potatoes are an important industry in this state. I thank all of you who contributed their information and helped me put it together. Copies will be sent to all growers in the area. Additional copies are available. So, if you know someone who should have a copy, let me know and I will be happy to send one. Plans exist to release this information to the mass media. Any comments, updates, etc. would be welcome.

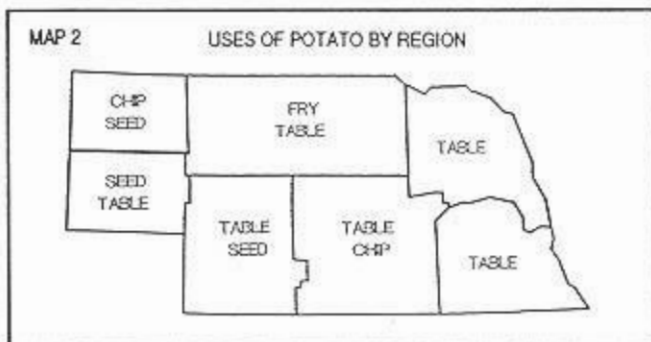
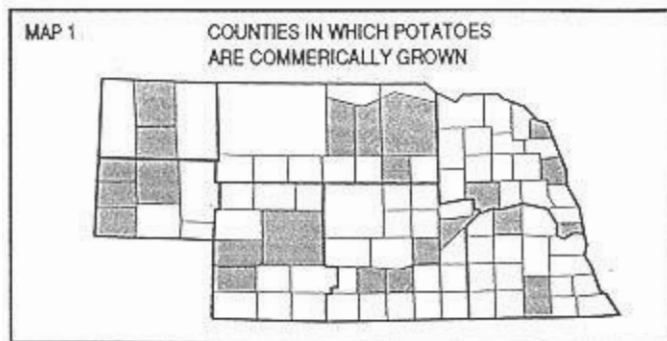
Recently a 3-part series of articles was written on the history of the Nebraska potato industry. The author was D. Faye Lamb and they were published in the Business Farmer (10/13, 10/20, and 10/27/89). Warren Trank and Harvey Werner were major contributors to this series. If you missed them, let me send you a photocopy.

*Alexander D. Pavlista*

### Estimated Impact of the Potato Industry on Nebraska

Alexander D. Pavlista  
Extension Potato Specialist  
University of Nebraska, Scottsbluff

The potato industry has been active in Nebraska throughout this century. Potatoes are currently grown or production is planned in 22 counties (Map 1). Estimated potato field production is over 4 million cwts (100 lb bags). Nebraska potatoes are used in all facets of the

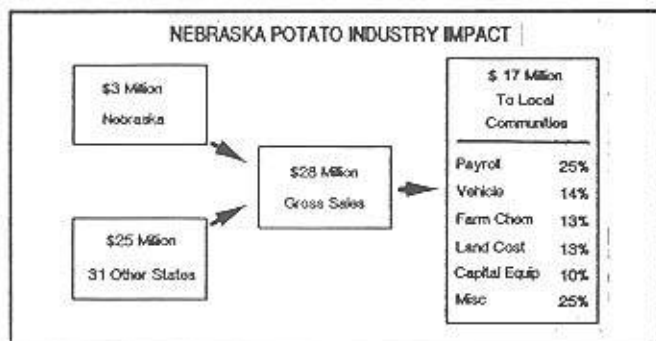


industry - chips, fries, tablestock, and seed (Map 2). Total acreage is 12,000; almost all is irrigated with center pivot. Expansion to 14,000 acres is anticipated in 1990. Two thirds of the Nebraska acreage is in western Nebraska, the Panhandle.

**Panhandle Economy** The average per capita income in the Panhandle is \$7,480 (1985) which is 71% of the U.S. average. From 1981 to 1987, there has been a 5.7% decrease in ag-employment and a 3.8% decrease in population in the Panhandle. During this same period, there was an 8.5% population increase in Nebraska. Because many communities in this area are agriculture-dependent, retail and service-related businesses

are directly impacted by farm commodity production.

**Input to the Community** A conservative estimate of Nebraska's potato industry's gross sales (1989) is \$28 to 29 million (Figure 1). Almost two thirds of the gross



sales (\$17 million) is plowed directly into the local communities such as Alliance, Basset, Bridgeport, Gering, Hemingford, Hershey, Imperial, Scottsbluff, and Wood River. The distribution of this income is Payroll 25%, Vehicle costs (maintenance, etc.) 14%, Farm Chemicals (fertilizers, pesticides, etc.) 13%, Land costs (rental, etc.) 13%, Capital Equipment (storage sheds, conveyors, etc.) 10%, and Miscellaneous (utilities, packing, taxes, etc.) 25%. Using the input-output multiplier of 3 for the state, over \$50 million is funneled into the state's economy by the potato industry.

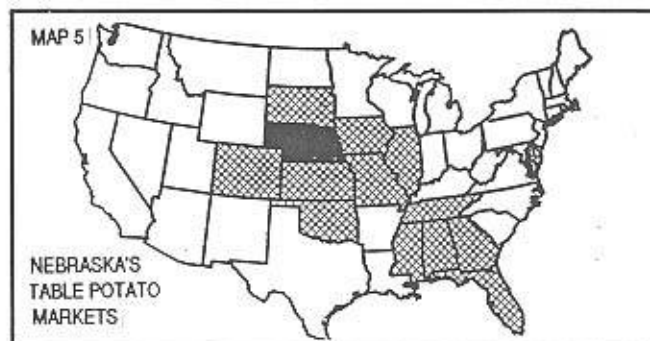
**Export Commodity** The Nebraska potato industry is primarily an exporting industry. Of the \$28-29 million gross sales, \$25 million comes from 31 states (Figure 1, Map 3). Seven states are the major buyers of



Nebraska's chipping potatoes - CA, CO, ID, OR, TX, UT, and WA (Map 4). Currently, all french fry potatoes



go to SD for processing. Most of the tablestock potatoes are sold east of Nebraska and in the southeastern part of the country (Map 5). Besides Nebraska, 12 states are major customers of Nebraska's tablestock potatoes



- AL, CO, FL, GA, IA, IL, KS, MO, MS, OK, SD, and TN.

**Future Expansion** The french fry industry is looking closely at the north central region of Nebraska. Potential exists for increasing acreage to upwards of 8,000 acres and the building of a processing plant in that area. Due to the recent 2-year drought in the Red River Valley, national potato chip companies are looking at Nebraska for potential expansion of chipping acreage and increasing their contractual commitments in the Panhandle.

Potatoes are an important industry in Nebraska. It brings income from other states; it contributes dollars into local economies, and it has opportunities to expand further. Expansion of the potato industry provides employment through value added processing. This industry provides diversity for the economic base of Nebraska and needs continued support to assure further growth and development.

## THE COOPERATIVE EXTENSION SYSTEM

*Robert D. Fritschen*  
 Director,  
 University of Nebraska,  
 Panhandle Research and Extension Center

The 75th Anniversary of the Cooperative Extension System was celebrated in 1989. Born out of the need to deliver research findings into the hands of the users, Extension has become the envy of the agricultural world.

But, Extension as a method of education, is only one of the cornerstones of the Land Grant University System. The other two components are teaching and research. The partnership's uniqueness includes funding and direction from federal, state, and local sources.

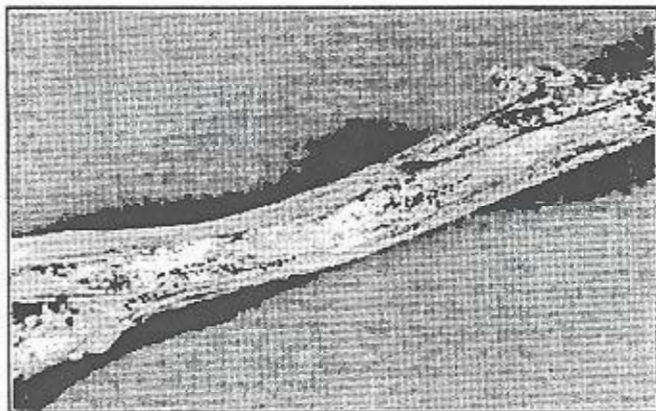
The Extension System on a functional basis identifies key issues and focuses resources and efforts toward those issues. Currently, those key issues for Nebraska include:



## Potato Black Dot Reappears in 1989

Eric D. Kerr  
Extension Plant Pathologist  
University of Nebraska,  
Panhandle Research and Extension Center

Recent samples of potato vines collected from commercial production fields by Dr. Robert O'Keefe were



infected with *Colletotrichum atramentarium*, the cause of black dot. The vines had been completely girdled by the fungus and lesions were present in stems from the base to near the top. The small black sclerotia were abundant in stem lesions and easily seen by visual inspection. A bright amethyst coloration of inner tissue was present in some vines. Sloughing of external tissue near the stem bases was common. Earlier yellowing and wilting of foliage appears similar to Fusarium wilt or Verticillium wilt. Underground stem and stolon lesions may resemble Rhizoctonia disease. Grayish areas may appear on the surface of tubers in storage and may be similar in appearance to silver scurf. In fact, tuber infection was first reported in this publication last spring from a mid-winter collection of stored potatoes.

The incidence and severity of black dot in Nebraska potato fields has not been investigated. Although it has been detected in storage and observed in significant severity in some fields this year, it has possibly been overlooked in some instances due to its similarity to other commonly occurring diseases. Greater incidence of black dot also has been reported in other potato producing areas the past two years and may be related in part to heat and drought stress favoring infection and development of the disease. Clean seed and crop rotation may be helpful sanitation practices to reduce initial inoculum, i.e. the same fungus species has been a problem on tomatoes in western Nebraska. Reducing stress by good irrigation scheduling may be helpful. There are no resistant cultivars available and presently no chemical controls.

## EBDC Registration Update

Bob Mercer  
President  
National Potato Board, Denver, CO

On December 4, 1989, the Environmental Protection Agency announced its preliminary determination to cancel certain registrations of the EBDC pesticides for most uses on food plus some industrial and homeowner use. At the same time the EPA urged consumers not to change eating and buying habits due to its review of these products.

The enclosed information sheets are designed to help explain the EPA's announcement and to assist you in answering questions from your customers regarding EBDC fungicides. You might also contact the Center for Produce Quality at 1-800-237-4458 for additional assistance.

### What are EBDC fungicides?

EBDC fungicides are the largest single class of fungicides in the world. They have been used widely over the past 40 years to protect as many as 70 crops against more than 400 different fungi.

### How do EBDC fungicides work?

EBDC fungicides are protectant fungicides. They are applied to the surface of a plant to protect it against fungal infection. They remain on the surface of the leaf and plant to protect it against fungal spores that may attach themselves to the plant. In other words, residues are not absorbed into the plant and any incidental residues can be removed with washing and peeling. Residues also degrade with storage, time, and processing.

### Why are EBDCs used on potatoes?

EBDCs are used to protect potatoes against early and late blight, the same diseases that destroyed crops in Ireland in the late 1840s, causing a nationwide famine.

Today, EBDCs are applied to the foliage of a potato plant to prevent fungal organisms from infecting potato vines. EBDCs are not systemic. That is, they are applied to the foliage of the plant and are not translocated into growing potatoes.

### Why is EPA concerned with EBDCs?

EPA is concerned that EBDC fungicides may leave a residue on fruits and vegetables that may metabolize into a breakdown molecule known as ETU. ETU is a suspected carcinogen. While we cannot comment on other commodities, we can say that this is certainly not the case with potatoes.

### Are potatoes treated with EBDC fungicides safe for my customers?

Yes, EBDCs are never applied directly to tuber crops such as potatoes. Application of EBDC fungicides on potatoes is strictly a foliar application. In other words, only the leaves and vines are treated. In more than 210 peer-reviewed scientific studies in the last 10 years, no measurable levels of EBDC residues were found in potatoes and similarly no evidence of the ETU break-



down metabolite could be found. If incidental residues could be detected, they could be removed during washing and preparation for cooking.

#### What is an EPA Special Review?

An EPA Special Review is a public procedure designed to gather more information about a given produce to examine the risks and benefits associated with its use and to make a regulatory decision regarding its use. The special review process takes about three years to complete and its progress is updated through several public position documents known as PD1, PD2/3, and PD4.

#### What type of information is presented in PD1, PD2/3, and PD4?

The EPA publicly announces its special review process in PD1. This document explains the data that triggered the review and solicits relevant information from the public.

The EPA then conducts a comprehensive review of all information they receive. This review assesses the hazards, the expected exposure, and the public benefits resulting from the use of pesticide. The EPA then balances the benefit against the risk and determines whether modification of the use is necessary to provide adequate safety to the public and the environment. EPA then issues an interim position document called the PD2/3, outlining proposed regulatory actions.

After the public comment on PD2/3, a final regulatory decision is made and announced in the PD4.

#### What is the private sector doing to support the EPA's Special Review?

Manufacturers of EBDC fungicides are conducting Market Basket Surveys to determine the level of residues on various crops treated with EBDCs. The results of these surveys will not be available until mid-1990. They will be given to the EPA to assist the agency with their final decision regarding the future use of EBDCs.

*Editor's Note: EBDCs are Maneb et al.*

## Potato Trivia

Potato chips were invented by mistake. The year was 1853 and Railroad Magnate Commodore Cornelius Vanderbilt was dining at a fashionable resort in Saratoga Springs, New York. He sent his fried potatoes back to the kitchen complaining they were too thick. To spite his haughty guest, the chef, George Crum, sliced some potatoes paper-thin, fried them in hot oil, salted and served them. To everyone's surprise, Vanderbilt loved his "Saratoga Crunch Chips," and potato chips have been popular since.

The potato chip industry survived World War II despite severe rationing restrictions on virtually every material necessary to produce chips. The industry had itself declared an "essential" industry since chips were the only ready-to-eat, dehydrated vegetable available at the time.

## SPUDDERS

Gary Leever

Potato Certification Association of Nebraska  
Alliance, Nebraska

Potato Certification personnel are currently working diligently on storage inspections. Storage inspection is approximately 2/3 completed at this printing and should be completed by Thanksgiving week. The seed potato crop is of excellent quality. As reported last month, there were some isolated fields that showed scab problems, and those lots will have heavy shrink at grading time. There seems to be a good early seed demand, and seed growers have reported many seed inquiries in late September and early October while seed harvest was still in progress.

Kent Sather and I will be attending the Potato Association of America Certification Section winter meeting in Jackson, Wyoming, November 28 and 29. This meeting will be followed by the 8th Annual North American Seed Potato Seminar, November 30 - December 2 in Idaho Falls, Idaho.

Nebraska winter test plot samples were planted November 14 and 15 on the Joe Borek, Jr. farm in Homestead, Florida. The samples went into the ground in excellent shape with optimum growing conditions. Barring any severe cold fronts bringing frost or any tropical storms dumping tons of rain, our plants should be knee high and ready for disease reading by January 14 or 15. Any of you planning to look at your winter test plot samples should plan to be in the Miami area around that time. As in past years, we will have a rental car available and will be glad to provide transportation to and from Miami International - just let us know when you are coming. Remember, a trip to the Homestead area is deductible, and not only offers you an opportunity to look at your own seed lots, but also arrangements can be made with other states so you can view a prospective seed lot you are considering purchasing for the coming year.

*I wish you all a Happy Holiday Season.*

## From the staff of the Nebraska Potato Eyes

We the staff at the *Nebraska Potato Eyes* wish to extend the warmest season's greetings and continued success in the coming year.

**Merry Christmas and a Happy New Year!**

# On the Road, 1989



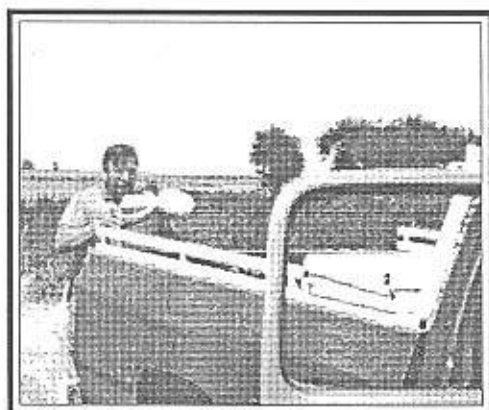
Kent Sather Gary Leever Sam Jameson



Warren Trank Sam Jameson Gene Shaver Gary Leever



John Faessler



Lloyd May



Sam Jameson Kent Sather



Bob O'Keefe Gary Leever