

The "Cost" of Doing Research Part I - The University

(Continued from Page A1)

ducted includes developing better industrial products, discovering new information technologies, creating new materials for a variety of fabrication purposes, developing the next generation of computers and software, improving nanofabrication technologies, identifying ways of improving food safety, enhancing food production and food production efficiency, developing a greater understanding of human, plant and animal diseases, conducting cutting-edge biomedical and biotechnological research to produce new machines, and contribute to a more modern national defense system.

The research conducted not only benefits society but also provides many opportunities for students to be involved in the knowledge-generation process. Learning how to conduct research is a process that requires a lot of hands-on experiences and practice. For students in Graduate School, this invariably leads to the publication of a M.S. or Ph.D. thesis that describes the results of their research. Importantly, many undergraduate students get opportunities to learn about and

conduct research in classes as well as in professors' laboratories. This provides a wonderful opportunity while helping students identify future career possibilities. Many undergraduate students work in research labs over the summer and have the opportunity to become more proficient at conducting research.

World-class research universities make many discoveries each year that are of commercial value. This is an important return on the investment in research. One example of this is a new start-up company, EIEICO, that was just created to commercialize new technological discoveries made in the Departments of Poultry Science and Dairy and Animal Science. Application of discovery research leads to the creation of jobs and enhances economic activity in Pennsylvania.

To conduct world-class research that makes life better costs a lot. Of the more than \$393,000,000 spent annually at Penn State, more than \$200,000,000 comes from the federal government and includes grants, contracts, cooperative

agreements and agricultural research opportunities. About \$55,000,000 was provided by the Commonwealth of Pennsylvania in the form of grants, contracts and both agricultural and general research appropriations. The private sector support was approximately \$69,000,000 for industry-sponsored research; the University provides the remainder.

I have given you a small glimpse of research at Penn State. Because of the scope of research ongoing at Penn State, I will discuss research activities in the College of Agricultural Sciences and the Department of Dairy and Animal Science and how they benefit Pennsylvania and the world in my next article.

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Farm Management

(Continued from Page A34)

• It is possible to establish LDP at harvest and store a portion of the crop unpriced. This strategy is more risky since a price decline after establishing LDP results in a price below loan rate. The lower the harvest price, the less risk. This strategy is attractive if the expected price increase exceeds the cost of storage and exceeds the premium for later delivery.

• For those facing payment limitations, the use of the certificate program might be considered. Crops are harvested, stored, and placed under loan. This program is similar to taking LDP, except gains are not subject to payment limitations.

• If a producer wants to speculate on a price increase above the loan rate, they can harvest and store the crop unpriced without establishing LDP. This is a longer-term strategy that uses the loan rate as the price floor, since the crop can be

placed under loan or LDPs established any time prior to May.

• Finally, if storage space is limited, producers may establish LDP at harvest and price the crop for immediate delivery. This can result in a price near the loan. Based on current basis and spreads, this strategy is more favorable to soybeans than corn. Current spreads suggest using storage for corn.

Re-ownership of beans with futures or options could be considered if prices are extremely low.

Livestock/dairy producers take note: Has a portion of expected feed usage been contracted? Typically, feed costs are near the top of the list as a percentage of input expenses. Even though it hurts to miss the absolute bottom of the feed cost curve, current grain prices are at historic lows. Now, using 1978-1999 "end of July" data, wheat is 22 percent below the 22-year average, oats are 29 percent below the 22-year average, corn is 20 percent below the 22-year average, and soybeans are 31 percent below the 22-year av.

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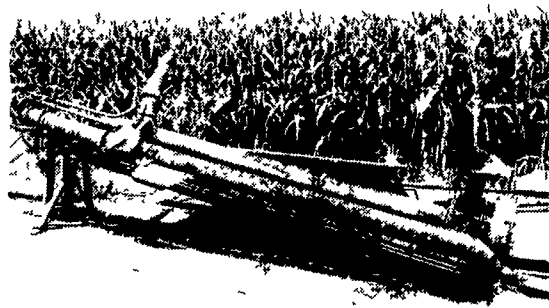
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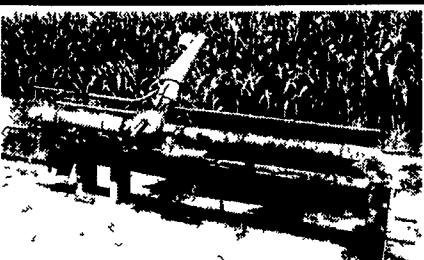
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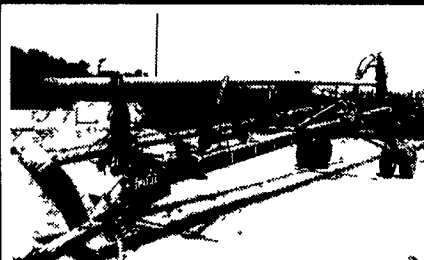
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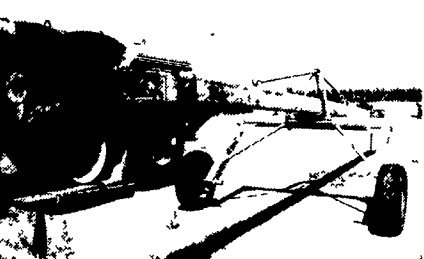
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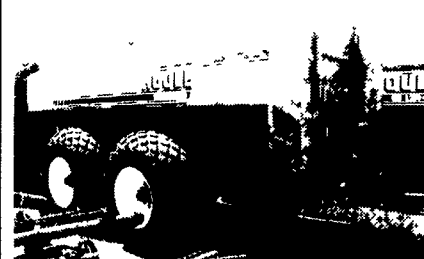
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