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Larry D. Makus, and John E. Carlson

A.E. Research Series No. 90-1
April 1990

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State mandatory seed laws are one of the recommendations of a national potato industry task force on bacterial ring rot eradication. Proponents of mandatory seed laws say that such laws could help reduce potato disease and quality problems. Opponents argue that mandatory seed laws are not necessary and would erode growers' freedom to farm.

Some states and Canadian provinces, such as Maine and New Brunswick, have mandatory seed laws. Potato groups in other states are discussing them. The Idaho potato industry has been considering the issue for several years.

Mandatory seed laws were on the program of the 1986 North American Seed Potato Seminar. A vice-president of Potato Growers of Idaho (PGI) attended that seminar and brought the topic up for discussion at the 1986 annual meeting of PGI. In a later annual PGI meeting, it was decided that a committee appointed by the PGI President would study mandatory seed laws. Members of that committee included: Glen Atchley - Ashton; Verne Duffin - Aberdeen; Scott Kandler - Ashton; Dennis Fransen - Grace; Norm Johnson - Grace; Allen Larsen - Blackfoot; Bryan Reed - Idaho Falls; Mark Ricks - Felt; Randy Suter - Jerome; and Kirk Webster - Rexburg.

The PGI committee asked University of Idaho faculty to assist them in the analysis of the mandatory seed law. The group of PGI members and UI faculty developed a research proposal and submitted it to the Idaho Potato Commission. In 1989 the Commission decided to fund the project which included a survey of all Idaho potato growers. This report provides the results of that survey.

SURVEY METHODS

PGI members and University of Idaho faculty developed a questionnaire designed to discover how Idaho potato growers felt about a mandatory seed law and other seed potato issues. The questionnaire was mailed between 1989 potato planting and harvest seasons to all growers on a PGI mailing list (which includes non-PGI members). The Dillman method of followup mailings and reminders was used. The first mailing was done on June 14, 1989. A follow-up postcard reminder was mailed on June 23. Second and third mailings of the questionnaire were done on July 12 and August 4.

A postcard for non-eligible respondents was enclosed in the mailings. People who were no longer growing potatoes could indicate that on the postcard.

In order to increase the response rate a telephone survey was conducted after the potato harvest. Using the same questions, growers who had not responded to the mail survey were contacted by phone during the October 23 - November 15 period.

The PGI mailing list consisted of 1937 names. Eight hundred eighty-two were found to be ineligible because they had retired, consolidated farms, or were no longer growing potatoes for some reason. Of the remaining 1055 eligible growers, 682 completed the mail survey and 166 completed the phone survey. The total response rate was 80.4 percent.

SEED POTATO QUALITY

The first question in the survey was "In general, how do you rate the quality of seed potatoes planted in Idaho?" The responses were: Excellent - 16%, Good - 66%, Fair - 17%, and Poor - 1%. A majority of growers (82%) who responded to this question rated seed potatoes as either excellent or good.

The growers were also asked to rate the effectiveness of some methods that might maintain seed potato quality. Their responses are in Table 1.

The flush-out, disclosure, and certified requirement methods were all rated as effective by a majority of growers. A slight majority of growers said that separate regulations for own-grown seed would not be effective.

The responses to item C. in Table 1 show how the growers felt about the effectiveness of a mandatory seed law. In another question they were asked whether they avored or opposed such a law. Some growers felt that a mandatory seed law would be effective, but opposed it for other reasons.

TYPE OF SEED PLANTED

The growers were asked to give the percentages of different types of seed that they planted. Their responses are in Table 2.

The majority of Idaho growers (82.7%) planted some or all of their potato acreage with tagged seed from a certification program. The untagged seed category is for seed potatoes that have been entered into a seed certification program but have not had the final inspection to be tagged.

The percentage of growers who planted all of their acreage with year-out seed was very small but over 9 percent planted some own-grown, year-out seed. This suggests that some commercial growers planted their own seed plots. They may use certified seed for their plots but don't enter them into the certification program.

Growers were also asked what percentage of the seed they planted was purchased. Their response was: None - 1.4%, 1 to 25 Percent - 7.3%, 26 to 50 Percent - 5.5%, 51 to 75 Percent - 5.0%, and 76 to 100 Percent - 80.8%. Nearly all Idaho growers (98.6%) purchase at least some seed potatoes.

Those growers who buy seed potatoes were asked the origin of their purchased seed potatoes. Results are in Table 3.

TABLE 1

Idaho Potato Growers Rating of Methods To Maintain Seed Potato Quality

Method	Very Effective	Somewhat Effective	Not Effective
A. Flush-out or limited generation requirement for Idaho seed certification	40.1%	54.1%	5.8%
B. A regulation requiring full disclosure of certification records	48.5%	42.3%	9.2%
C. A law requiring that all Idaho potatoes must be planted with certified seed	38.6%	25.6%	35.7%
D. A separate set of certification regulations for growers who only grow seed for their own use	15.5%	34.1%	50.4%

TABLE 2

Types Of Seed Potatoes Planted In Idaho

	Planted None	Planted Some	Planted All
A. Tagged seed from a seed certification program	17.3%	17.6%	65.1%
B. Untagged seed from a seed certification program	75.9%	14.1%	10.0%
C. Year-out seed grown on own farm	90.7%	9.2%	0.1%
D. Year-out seed purchased from someone else	95.9%	3.3%	0.8%

TABLE 3

Sources Of Seed Potatoes Planted In Idaho

	Planted None	Planted Some	Planted All
Idaho	6.9%	77.2%	15.9%
Montana	85.4%	13.2%	1.4%
Oregon	98.6%	1.3%	0.1%
Canada	97.2%	2.2%	0.6%
Other	94.2%	5.3%	0.5%

TABLE 4

Idaho Growers Response To Seriousness of Possible Seed Potato Problems

	Serious Problem	Moderate Problem	Slight Problem	Not A Problem
Seed-borne diseases	27.6%	42.7%	24.9%	4.8%
Ineffective seed piece treatment	7.2%	26.7%	43.0%	23.1%
High prices for certified seed	10.3%	30.6%	31.4%	27.7%
Poor quality of non-certified seed	39.4%	27.0%	19.1%	14.4%
Misrepresentation of certified seed	22.0%	27.6%	33.5%	16.9%
Inadequate seed piece size	7.5%	34.1%	34.3%	24.1%
Unavailable seed varieties	2.1%	10.9%	30.0%	57.0%
Poor seed cutting sanitation	11.7%	28.1%	36.9%	23.3%
Inadequate standards for seed certification	18.4%	27.8%	27.4%	26.4%
The impact of non-certified seed on the reputation of Idaho commercial potatoes	26.9%	29.1%	26.6%	17.5%
Mechanical limitations of planters	14.0%	35.6%	33.9%	16.6%
Inconsistent quality of certified seed	13.1%	34.7%	36.7%	15.5%
Commercial growers cannot always afford to buy certified seed	10.9%	27.0%	35.7%	26.4%
Quality problems in commercial potatoes due to poor quality seed	15.0%	33.3%	38.9%	12.8%

It is clear that Idaho is the primary source of seed potatoes by the majority of Idaho growers. All but 6.9 percent of the respondents planted at least some Idaho seed. Nearly 15 percent of the respondents said that Montana provided some of the seed they purchased. States that growers listed in the "Other" category included Minnesota, North Dakota, and Wisconsin.

Growers were also asked to indicate their typical planting rate. Seventy-seven percent of the respondents said that they planted from 18 to 22 cwt per acre. Thirty one percent said they planted 20 cwt per acre.

SEED POTATO PROBLEMS

Growers were asked about some possible problems related to seed potatoes. Table 4 indicates that seed-borne diseases, the impact of non-certified seed on Idaho's reputation, and the poor quality of non-certified seed are considered the most serious problems among those listed in the table. The majority of respondents rated those issues a serious or moderate problem. At least 40 percent of the respondents rated misrepresentation of certified seed and high prices for certified seed as a serious or moderate problem.

Also of interest in Table 4 is the 43 percent who said that variety availability is a problem. The Russet Burbank is by far the most popular variety in Idaho, but perhaps many growers are willing to try other varieties if available.

SEED-BORNE DISEASES

Table 5 shows that nearly one-third of the respondents rated nematodes a serious problem. Over one-fourth of the growers rated blackleg a serious problem. Among the seed-borne diseases listed in the table, mosaic and Potato Virus X are rated the least serious.

TABLE 5

Idaho Growers Response To Seriousness of Seed-Borne Disease Problems For Farmers In Their Area

	Serious Problem	Moderate Problem	Slight Problem	Not A Problem
Bacterial Ring Rot	18.3%	22.4%	37.8%	21.5%
Leafroll	16.5%	38.7%	38.4%	6.4%
Blackleg	26.3%	38.5%	28.0%	7.3%
Mosaic	5.4%	21.3%	52.6%	20.7%
Potato Virus X	5.7%	18.9%	49.5%	25.8%
Nematodes	31.4%	29.8%	21.5%	17.3%

MANDATORY SEED LAW

The questionnaire asked whether or not the growers favored or opposed a mandatory seed law. They were given four response categories so that the strength of their position could be measured. The responses for all growers who responded are: Strongly Favor - 36%, Somewhat Favor - 26%, Somewhat Oppose - 15%, Strongly Oppose - 23%. Adding the two favor categories indicates that 62 percent of the growers favor a mandatory seed law for Idaho.

The growers were also given the opportunity to explain why they felt the way they did about a mandatory seed law. This was an open-ended question, so the responses were not quantified. Some of the frequently mentioned reasons among those who *favored a mandatory seed law* included:

- It could clean up disease problems
- Less worry about neighbor's infected fields
- Alternate pest control to banned chemicals
- Junk growers hurt us
- It could enhance Idaho's quality image
- It would enhance actual quality
- Possible market promotion tool
- Keep up with competition from other states
- Must protect our industry
- Control overplanting
- Would stop lenders from forcing use of non-certified seed
- Idaho potato acreage estimates would be more accurate
- Works in other states
- OK, if keep government out

Growers *opposed to a mandatory seed law* included the following as reasons:

- Freedom to farm
- Oppose more regulations
- Like farming in USSR
- Enforcement problems
- Growers know risks & rewards
- Education is needed, not more laws
- Seed shortages
- High seed prices
- Increased production cost
- Poor certified quality
- Trust own-grown seed
- Higher yields hurt prices
- Everyone becomes a seed grower
- Current certification standards are questionable

A complete list of written responses to the open-ended question may be obtained from Joe Guenther at the University of Idaho or the PGI office in Blackfoot.

Analysis was also conducted to see what types of growers were more or less likely to favor a mandatory seed law. It was found that 57 percent of *commercial growers* and 82 percent of the *seed growers* favored the law.

There were also *geographical differences*. In Eastern Idaho 65 percent of the growers favored the law, in the Magic Valley it was 58 percent and the Treasure Valley it was 69 percent. There were much wider differences between counties. Some county examples of percentages of growers who favored the law are: Bingham - 55%,

Bonneville - 44%, Canyon - 94%, Caribou - 71%, Jefferson - 74%, Madison - 54%, and Power - 81%.

In the survey the growers were asked what commodity provides most of their gross farm income. Sixty-two percent of those who were primarily potato farmers favored the law. This was not much different from the 65 percent of other types of growers who favored the law.

Age was another factor that showed a difference. The following shows the percentage of growers in three age groups who favored a mandatory seed law: Less than 40 yr. - 66%, 40 to 55 yr. - 62%, Over 55 yr. - 58%.

Farm size, measured by gross farm income, was another factor analyzed. The following indicates that the smallest and largest growers were less likely to favor the law: Less than \$100,000 - 55%, \$100,000 to \$300,000 - 62%, \$300,000 to \$500,000 - 69%, \$500,000 to \$1 Million - 64%, Over \$1 Million - 57%.

There were also differences between growers who planted *different type of seed potatoes*. Among those who never plant certified seed, 42 percent favored a mandatory seed law. Seventy-three percent of those who always plant certified seed favored it.

SUMMARY

In summary, the concept of a mandatory seed law is supported by a majority of Idaho potato growers who responded to the survey. Many of those who oppose a mandatory seed law have valid reasons and strong feelings about their opinions. The survey gives the Idaho industry base data on how growers feel about a mandatory seed law and why. Future research will analyze the economic impact of a mandatory seed law.