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Mandatory seed laws and other Idaho seed potato issues

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State mandatory seed laws requiring all growers to plant certified seed are one of the recommendations of a Potato Association of America task force on bacterial ring rot eradication. Proponents of mandatory seed laws say that such laws could reduce the incidence of potato disease and improve potato quality. Opponents argue that mandatory seed laws are unnecessary and erode growers' freedom to farm.

Several states and Canadian provinces have mandatory seed laws. Potato groups in other states are discussing them. The Idaho potato industry has been considering the issue for several years but has reached no consensus on what action to take.

In 1989 the Idaho Potato Commission funded a study to determine how Idaho growers feel about a mandatory seed law and whether such a law could provide economic benefits to the potato industry. This publication reports the results of the study. More detailed information is in EXP 732, *Analysis of a Mandatory Seed Law for the Idaho Potato Industry*.

Idaho grower survey

A Potato Growers of Idaho, Inc. (PGI) committee and University of Idaho faculty developed a questionnaire to learn how Idaho potato growers feel about a mandatory seed law and other seed potato issues. The questionnaire was mailed to all growers on a comprehensive list maintained by Potato Growers of Idaho.

The first mailing was done 14 June 1989, after potato planting. Growers received follow-up postcard reminders about 10 days later. Growers who failed to respond received second and third mailings of the questionnaire in July and August. To

increase the response rate, a telephone survey conducted from 23 October to 15 November contacted growers who had not responded to the mail survey. The telephone survey asked the same questions as the mail survey. The final response rate was 80.4 percent.

Seed potato quality

When asked, "In general, how do you rate the quality of seed potatoes planted in Idaho?" a majority of growers (82 percent) responded with "excellent" or "good."

Growers also rated the effectiveness of some methods that might maintain seed potato quality (Table 1). A majority of growers considered the flush-out, disclosure, and certified seed requirement methods very or somewhat effective. A slight majority of growers said that separate regulations for own-grown seed would not be effective.

Table 1. Idaho growers' views of the effectiveness of methods to maintain seed potato quality.

Method	Effectiveness		
	Very (%)	Somewhat (%)	Not (%)
Flush-out or limited generation requirement for Idaho seed certification	40.1	54.1	5.8
Regulation requiring full disclosure of certification records	48.5	42.3	9.2
Law requiring that all Idaho potatoes be planted with certified seed	38.6	25.6	35.7
Separate set of certification regulations for growers who grow seed for their own use only	15.5	34.1	50.4

Type of seed planted

A majority of growers (82.7 percent) planted some or all of their potato acreage with tagged seed from a certification program (Table 2). The percentage of growers who planted all of their acreage with year-out seed (one year out of certification) was very small, but more than 9 percent planted some year-out seed grown on their own farms. This suggests that some commercial growers planted their own seed plots. They may have used certified seed for their plots but bypassed the certification program.

Table 2. Idaho growers' use of certified and non-certified seed potatoes.

Seed type	None	Some	All
	(%)	(%)	(%)
Tagged seed from a seed certification program	17.3	17.6	65.1
Untagged seed from a seed certification program	75.9	14.1	10.0
Year-out seed grown on own farm	90.7	9.2	0.1
Year-out seed purchased from someone else	95.9	3.3	0.8

Note: 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.

Seed source

Most producers (80.8 percent) purchased 76 to 100 percent of their seed. Only 1.4 percent purchased no seed.

For a majority of growers who bought seed potatoes, Idaho was the primary source. All but 6.9 percent planted at least some Idaho seed. Nearly 15 percent of respondents purchased some seed from Montana. Other seed sources included Minnesota, North Dakota, and Wisconsin (Table 3).

Table 3. Idaho growers' sources of seed potatoes.

Source	None	Some	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

Planting rate

Seventy-seven percent of respondents planted 18 to 22 hundredweight (cwt) per acre. Thirty-one percent planted 20 cwt per acre.

Seed potato problems

Growers considered seedborne diseases, the impact of non-certified seed on Idaho's reputation,

and the poor quality of non-certified seed the most serious seed potato problems (Table 4). The majority rated those problems serious or moderate. At least 40 percent of respondents rated misrepresentation of certified seed and high prices for certified seed as serious or moderate problems.

Table 4. Idaho growers' views of the seriousness of possible seed potato problems.

Potential problem	Serious problem	Moderate problem	Slight problem	Not a problem
	(%)	(%)	(%)	(%)
Seedborne 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

Seedborne diseases

Nearly one-third of respondents rated nematodes a serious problem (Table 5). More than one-fourth rated blackleg a serious problem. They rated mosaic and Potato Virus X least serious.

Mandatory seed law

Sixty-two percent of growers favored a mandatory seed law for Idaho:

- 36 percent favored one strongly
- 26 percent favored one somewhat
- 11 percent opposed one somewhat
- 23 percent opposed one strongly

Table 5. Idaho growers' views of the seriousness of seed-borne disease problems for farmers in their area.

Problem	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

Growers were asked to explain their position toward a mandatory seed law in their own words.

Growers who favored a mandatory seed law gave the following reasons:

- It could clean up disease problems.
- It would reduce worry about neighbors' infected fields.
- It could be an alternative to banned chemicals for pest control.
- Junk growers hurt us.
- It could enhance Idaho's quality image.
- It would enhance actual quality.
- It is a possible market promotion tool.
- It helps us keep up with competition from other states.
- We must protect our industry.
- It could discourage overplanting.
- It would stop lenders from forcing use of non-certified seed.
- Idaho potato acreage estimates would be more accurate.
- It works in other states.
- It is OK if the government stays out.

Growers opposed to a mandatory seed law gave the following reasons:

- It would erode freedom to farm.
- It would impose more unwanted regulations.
- It would be like farming in the USSR.
- There would be enforcement problems.
- Let growers decide; they know risks and rewards.
- Education is needed, not more laws.
- There could be seed shortages.
- It could increase seed prices.
- It could increase production cost.
- Some certified seed is poor in quality.

- I have more trust in own-grown seed.
- Higher yields hurt prices.
- Everyone could become a seed grower.
- Current certification standards are questionable.

Factors affecting seed law stance

Support for a mandatory seed law differed between commercial growers and seed growers and between growers who always planted certified seed and those who never planted it. Support varied also by county, age, and farm size.

Still, a clear majority of Idaho growers favored a mandatory seed law. Support for the law appeared to be strongest among seed growers, processed growers, younger growers, medium-sized growers, and growers who always planted certified seed.

Commercial versus seed growers — Fifty-seven percent of commercial growers favored the law, while 82 percent of seed growers favored it.

Use of certified seed — Among those who never planted certified seed, 42 percent favored a mandatory seed law. Seventy-three percent of those who always planted certified seed favored it.

County — In general, growers in counties where the seed market or the processed market is important were more likely to favor a mandatory seed law than growers in counties where the fresh market dominates. Because many processors require growers to use certified seed and seed growers naturally believe in their product, these geographical differences were not unexpected. Percentages of growers who favored the law are as follows: Bingham, 52 percent; Bonneville, 39 percent; Canyon, 77 percent; Caribou, 90 percent; Jefferson, 21 percent; Madison, 40 percent; and Power, 50 percent.

Age — Sixty-six percent of growers younger than 40 favored the law, 62 percent of those from 40 to 55 favored it, and 58 percent of those older than 55 favored it.

Farm size — The smallest and largest growers were less likely than middle-sized growers to favor the law. Only 55 percent of growers with gross incomes less than \$100,000 favored the law, and only 57 percent of growers with gross incomes more than \$1 million favored the law. In contrast, 62 percent of growers with incomes of \$100,000 to \$300,000 favored the law, 69 percent of growers with incomes of \$300,000 to \$500,000 favored the law, and 64 percent of growers with incomes of \$500,000 to \$1 million favored the law.

Economic analysis of Maine's mandatory seed law

Because Idaho has never had a mandatory seed law, it is difficult to predict such a law's impact on the Idaho potato industry. Fortunately, Maine implemented a mandatory seed law beginning with the 1981 crop. We conducted a statistical analysis of factors that influenced yields, quality, acreage, and prices of Maine potatoes before (1968-80) and after (1981-88) Maine's mandatory seed law was implemented. Results are given as the average for the study years (Table 6).

Table 6. Effect of Maine's mandatory seed law on a typical commercial Maine potato grower.

	Without law	With law	Change
Potatoes (acres)	200	200	0
Yield (cwt/acre)	234	262	+28
Total production (cwt)	46,800	52,400	+5,600
Price (\$/cwt)	4.94	4.84	-0.10
Revenue (\$)	231,200	253,600	+22,400
Seed cost (\$/cwt)	5.86	7.08	+1.22
Planting rate (cwt/acre)	20	20	0
Total seed cost (\$)	23,440	28,320	+4,900
Harvest cost (\$/cwt)	.50	.50	0
Total harvest cost (\$)	23,400	26,200	+2,800
Cost (\$)			+7,700
Change in profit (\$)			+14,700

Yield, acreage, and seed potato price

The analysis indicated that after accounting for all other factors, the mandatory seed law increased Maine potato yields about 28 cwt per acre, decreased Maine potato acreage about 4,000 acres, increased Maine seed potato acreage about 4,200 acres, and increased Maine seed potato prices about \$1.22 per cwt.

Rejection rate

Because one goal of mandatory seed laws is to reduce the incidence of potato disease, we also studied seed potato acreage rejected for certification. Our analysis indicated that the percentage of Maine certified seed potato acreage rejected for certification declined 7.1 percentage points after implementation of the mandatory seed law.

Potato price and profit

If the mandatory seed law did indeed cause Maine potato acreage to decrease by 4,000 acres

and yields to increase by 28 cwt per acre, U.S. fall potato production would have increased about 1.1 percent. The average long-run price effect of this increase would have been a price drop of about 2 percent. Even so, the mandatory seed law may have increased annual profits for a typical Maine commercial potato grower by \$14,700 (Table 6).

Potato quality

Our analysis did not include any impact the mandatory seed law may have had on commercial potato quality. Yet it is likely that the mandatory seed law enhanced quality. If so, the typical grower's increased profit may have been even higher than our estimate.

Implications for an Idaho law

The impact of a mandatory seed law in other states may be similar to its impact in Maine. One key difference might be the law's impact on potato prices. For example, if an Idaho mandatory seed law increases yields by the same 28 cwt per acre it did in Maine, Idaho potato production would increase by nearly 10 million cwt. This would represent a 3 percent increase in the total U.S. fall crop. This increase in supply would lead to larger price decreases than occurred in Maine and to different impacts on grower profits.

Conclusions

A clear majority of Idaho growers supported a mandatory seed law. Such a law would be likely to create economic benefits for Idaho potato growers.

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