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NEBRASKA

POTATO EYES

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1996 Farm Bill and Potatoes

The FAIR (Federal Agriculture Improvement and Reform) Act has a section limiting the planting of potatoes on federally contracted acreage. ["The planting of fruits and vegetables (other than ...) shall be prohibited on contract acreage." Sec. 118 (b)(1)] In Spring, a number of potato growers across the nation who rent ground were alarmed and contacted federal representatives and the National Potato Board to get the wording changed before final approval. This summer some Nebraska growers asked me for a clarification of the exceptions to the above limitation for potatoes [Sec. 118 (b)(2)].

(A) In an area in which potatoes have historically been grown in rotation with contracted crops, potatoes can continue being grown on contracted land. Common contracted crops in Nebraska are corn, wheat, alfalfa, and sugarbeets. Area may be broadly defined as a county, or a region such as the Platte River Valley and the Panhandle, or even the State. This exception allows a grower who has grown potatoes before to continue growing potatoes even on contracted land and while participating in Federal farm programs.

(B) Potatoes can continue to be grown on a farm with a history of growing potatoes on contracted acreage. The Secretary of Agriculture or designated representative determines whether a farm has such a history. Furthermore, on a farm with a history of growing potatoes, there is no limitation as to how many acres of potatoes can be grown. The contract payment, however, shall be reduced for each acre of potatoes for each year that potatoes will be grown. The farmer does **not** lose payments for the non-potato acreage for that year nor lose payments on non-potato acreage for any other year either. There is an exception to the acre-payment-reduction rule. If a grower double-crops with wheat, feed grains, et al. and there is a history of such double-cropping in the area, not necessarily by that potato grower, then there is no loss of farm program payments for the potato acreage.

(C) A grower with a history of growing potatoes on rented ground may continue growing potatoes on rented ground even if the acres are on a farm with contracted acres and even if that farm has never had potato acres before. The Secretary of Agriculture or representative determines whether a grower has such a history. However, there are two limitations.

(i) The number of acres that can be planted to potatoes is limited by the average, annual, planting history for growing potatoes from 1991 to 1995. For instance, if the 5-year (1991-95) average was 500 acres of potatoes, a maximum of 500 acres of potatoes can be planted on rented ground on a farm under a Federal program in any year under the FAIR Act. Note if the grower skipped a year of growing potatoes, that year is not included in calculating the average.

(ii) As in (B), there is a reduction in contract payment to the farm for each acre of potatoes grown in each year.

[source: USDA-ERS Bulletin VGS-268 (April 1996). "Vegetables and Specialties: Situation and Outlook Report" page 17.]

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In This Issue...

Pesticide Use and Impact

Pesticides in Nebraska

Last January/February I prepared a survey for the USDA about pesticide use on the fall potato crop in Nebraska in conjunction with 11 other states. The purpose of the survey is to document the importance of potato pesticides and the impact of their losses. The survey is under the auspices of the National Agricultural Pesticide Impact Assessment Program (NAPIAP). I interviewed all potato growers with over 500 acres representing a total of about 13,600 acres or 80% of the State's total in 1995. Several have asked me about the results. The following tables are Nebraska's pesticide data. I've also included brief descriptions of pesticide use in Colorado and Michigan. As I get data from the other nine states, I'll summarize them as well. National data have not been compiled yet but I'll report them as well in a later issue.

TABLE 1. Insecticides
a) Use in Nebraska

Product	Percent Acreage: Tablestock	Processing	Seedstock
Ambush	0%	51%	37%
Asana	33%	65%	29%
Di-Syston	24%	0%	0%
Furadan	31%	0%	0%
Monitor	0%	67%	63%
Thimet/Phorate	100%	85%	100%
Thiodan	0%	28%	37%

b) Target Pests, Substitutes and Potential Crop Loss

Product	Target Pest[1]	Substitutes	Loss[2]
Ambush	CPB/LH	Asana	none
Asana	CPB/LH	Ambush	10% Y
	aphids[3]	Thiodan	none
Di-Syston	LH/FB/general	Asana et al.	none
Furadan	WW/ECB	Bt as DiPel	none
Monitor	GPA	none	25% Q
Thimet/Phorate	general/CPB	DiSyston	none
	general/WW	Mocap	none
	general	foliar	5%Q
Thiodan	LH/PP	Asana	none
	GPA	Monitor	none
		none	20%YQ

[1] LH = leafhopper, CPB = Colorado potato beetle, FB = fleabeetle, WW = wireworm, ECB = European Corn Borer, GPA = green peach aphid, PP = potato psyllid.
[2] Y = yield, Q = quality
[3] Note Asana is NOT labelled nor effective against green peach aphid.

Brief Overview of Colorado Data

The top insecticides were Ambush/Pounce (50% total acreage), Asana (50%), Monitor (50%), Thiodan (50%), Di-Syston (30% table acreage), and either Furadan or Thimet on 10% of the process and seed acreage. Major pests were reported to be potato and green peach aphids, potato psyllid, Colorado potato beetle, and some loopers. Bravo, Mancozebs, SuperTin, and copper hydroxide (Champ/Kocide) are fungicides used on 75 to 95% of total acreage for controlling early blight. Mertect is used on about 70% of the potatoes to control dry rot. General weed control is accomplished with Eptam/Genep (85% total acreage), Lexone/Sencor (70%), and Dual (10%). Vines are desiccated with sulfuric acid (30%) or Diquat (25%). About 50% of the tablestock and processing potatoes are treated with CIPC (SproutNip). Tablestock comprised 77% of the acreage (mean from 1991 to 1994), 8% was acreage for process potatoes, and 15% was for seed.

Brief Overview of Michigan Data

In Michigan, 28% of the acreage (mean from 1991 to 1994) is tablestock; acreage for process potatoes was 65%, and seed use was 7% of the acres. Major insect pests are Colorado potato beetle and leafhopper which are controlled with Guthion (60% total acreage), Imidan (70%), Thiodan on 40% of the acreage used for tablestock and process potato production, and Sevin used on 30% of the seed acreage. Pipronyl butoxide is also used for Colorado potato beetle on 60% of total acreage. Monitor is used on 80% of total acreage for green peach aphid control. For the control of early and late blights, Bravo (50% total acreage), Mancozebs (90%), and copper compounds (25%) are used. Ridomil is used against late blight on 45% of the acreage. Lorox is used to control weeds, primarily lambsquarter and pigweed, on 75% of the acreage. Other herbicides are Dual (55%) and Lexone/Sencor (45%). Vine desiccation is accomplished with Diquat (80% total acreage) and Gramoxone (15%). The processing industry uses CIPC on 70% of production and maleic hydrazide (MH30) on 10%. These two products are also used on 10% of the tablestock production.

Wind Erosion Control

Maintaining effective residue levels from a prior crop is the best erosion-control method. Potato vines do not provide enough residue to give adequate soil protection. Therefore, the best control strategy after potato harvest is planting a cover crop which needs to be planted early enough for adequate growth to provide protection.

Surface residue and green cover are the only parameters to receive wind erosion credits. Surface roughness has not really been considered. Trials were conducted in Washington by the Natural Resources Conservation Service comparing different methods of roughing the soil surface after a November potato harvest. In general, those treatments that increased roughness and decreased residue, caused more drying of the soil surface.

While it is generally accepted that soil roughness decreases wind erosion potential, if the practices increasing roughness also reduce residue and causes faster drying of the soil, then there may be a net negative effect on erosion control. The methods tested were bare-ground, late-seeded cover crop, roughing to leave clods, bedding/ridging, pitting after ridging, crusting using a molasses-based product, and mulching with 1500 lb straw/acre. Mulching provided twice the amount of roughness, almost twice the amount of residue cover, and no increase in surface dryness compared to bare ground.

Surface drying was greatest with roughing (clods), bedding and pitting, all of which also provided the least residue cover. Pitting provided the most surface roughness, three times that of untreated, bare ground.

TABLE 2. Fungicides

a) Use in Nebraska

	Percent Acreage:		
Product	Tablestock	Processing	Seedstock
Bravo	100%	100%	74%
Mancozebs	44%	27%	76%
Manebs	0%	65%	51%
Mertect	0%	80%	76%
Ridomil	48%	85%	100%
SuperTin	0%	0%	11%
Tops	56%	57%	30%
copper hydroxide[a]	44%	44%	63%
copper sulfate[a]	0%	23%	0%

[a] copper hydroxide = Champ, Kocide, et al; copper sulfate = Basicop

b) Target Pests, Substitutes and Potential Crop Loss

Product	Target Pest[1]	Substitutes	Loss[2]
Bravo	EB/LB	Manebs	20%Y
		Mancozebs	20%Y
Mancozebs	EB/LB	Bravo, Maneb	none
	seed decay	none/peroxide	10%YQ
Manebs	EB/LB	Bravo, Mancozeb	none
	seed decay	Tops	none
Mertect	dry rot	none[3]	15%YQ
Ridomil	late blight	Bravo[4]	20%YQ
	leak,pink rot	none	50%Y,10%Q
SuperTin	EB	Bravo et al.	none
Tops	seed decay	Mancozeb	<5%YQ
		none	10%YQ
Champ/Kocide	EB/LB	Bravo	none
copper sulfate	LB@desiccation	Champ/Kocide	

[1] EB = early blight, LB = late blight

[2] Y = yield, Q = quality

[3] Dithane ST may now be used on seed, elliminating loss.

[4] Acrobat MZ, Curzate M-8 and Tattoo C were approved.

TABLE 3. Herbicides and Plant Growth Regulators

a) Use in Nebraska

	Percent Acreage:		
Product	Tablestock	Processing	Seedstock
Diquat	7%	80%	85%
Dual	100%	61%	85%
Eptam/Genep	0%	6%	8%
Gramoxone	81%	0%	0%
Lexone/Sencor	100%	66%	85%
Lorox	0%	8%	1%
Poast (Ultima)	13%	23%	9%
Prowl	9%	61%	22%
Round Up	0%	8%	5%
sulfuric acid	0%	11%	13%
CIPC	7%	90%	0%
gibberellic acid	0%	0%	12%

b) Target Pests, Substitutes and Potential Crop Loss

Product	Target Pest	Substitutes	Loss[1]
Diquat	desiccation	sulfuric acid	15%Q
		mechanical	25%Q
Dual	general	labor	30%Y
	grasses	Prowl	10%Y
	nightshade	Eptam	15%Y
Eptam/Genep	nightshade	none	25%Y
Gramoxone	desiccation	sulfuric acid	none
		diquat	none
		flaming	none
Lexone/Sencor	general	labor	30%Y
	broadleaves	EPTAM	10%Y
Lorox	broadleaves	Lexone/Sencor	none
Poast (Ultima)	grasses	labor	30%Y,20%Q
Prowl	grasses	labor	25%Y
		Poast	none
Round Up	TVC[2]	full tillage	<5%Y
sulfuric acid	desiccation	diquat	none
	late blight	copper cpds.	??
CIPC	sprout	none	95%Q
	inhibition	MH30	50%Q
gibberellic acid	sprout promotion	ethylene	5%Q

[1] Y = yield, Q = quality, [2] TVC = total vegetation control

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