

Post-Harvest Applications of Phosphorous Acid for Control of *Phytophthora infestans* on Potatoes

A photograph of a rural landscape. In the foreground, a tractor is pulling a trailer through a field of harvested potatoes. A white truck is parked nearby. The background shows a dense forest of trees under a clear sky.

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<http://www.umaine.edu/umext/potatoprogram/>

***Phytophthora infestans*,
the late blight pathogen**



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harvest





Harvest

***Phytophthora infestans*,
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Unloading



Storage

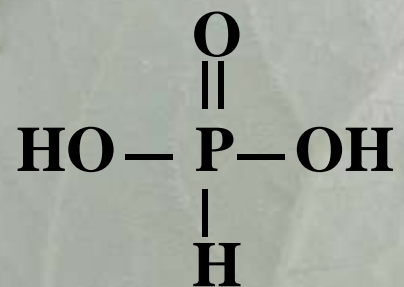




A large, blue metal building with a prominent white garage door and a smaller white door. The building has a curved roof and is situated on a paved area. The sky is clear and blue. The text "This is not a hospital" is overlaid in white on the lower half of the image.

This is not a hospital

Phosphorous acid



**Phosphorous acid and Phosphoric acid
are not the same!**

**Phosphorous acid
dissociates and
releases phosphonate
(also called phosphite).
This inhibits some
pathogens.**

**Phosphoric acid
dissociates and
releases phosphate.
This is fertilizer**



Material	ml per 1000 kg
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Check	0.0
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Agclor 310	1.5
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Oxidate	49
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Phostrol	417
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ProPhyt	417
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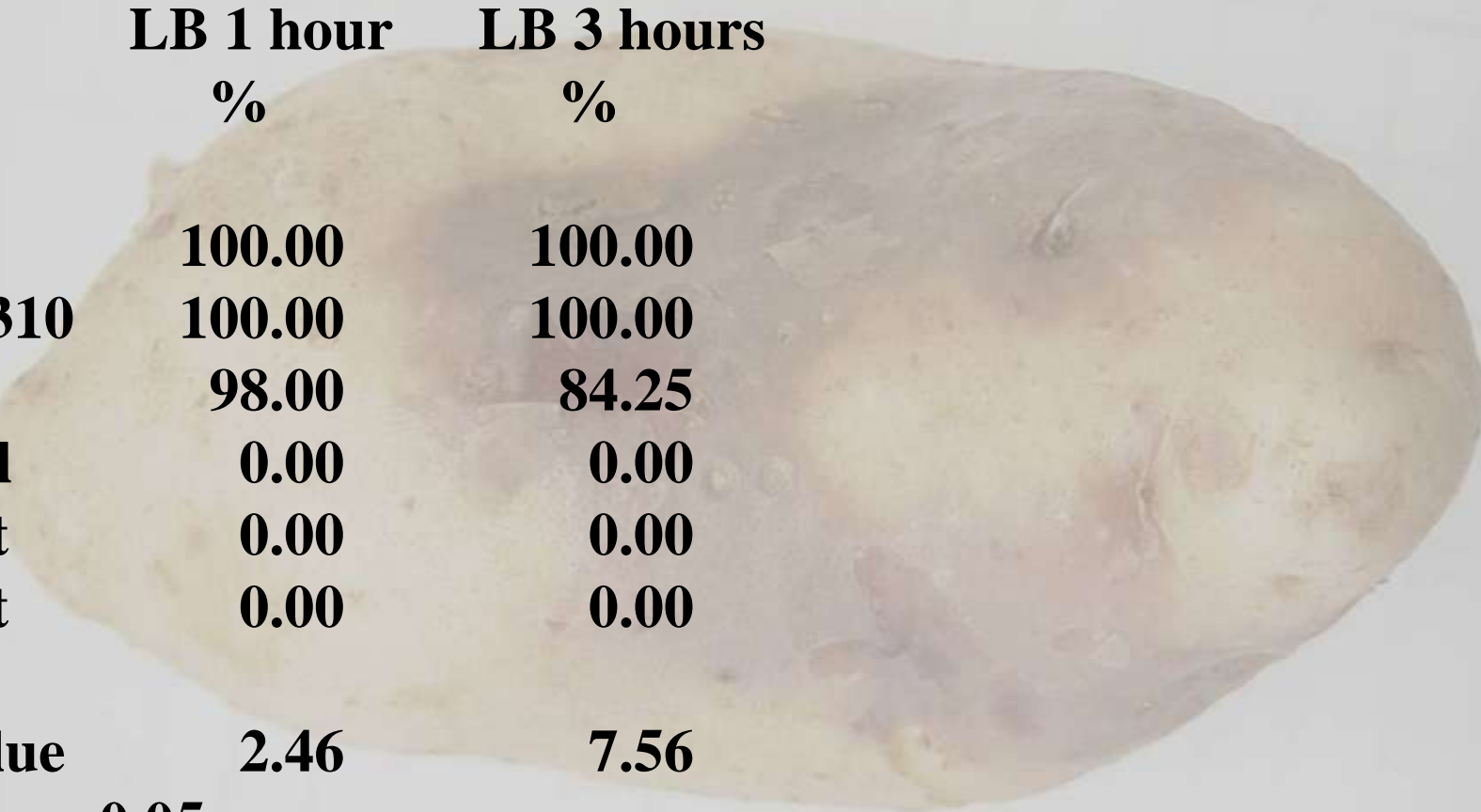
ProPhyt	835
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Timing of treatments after inoculation



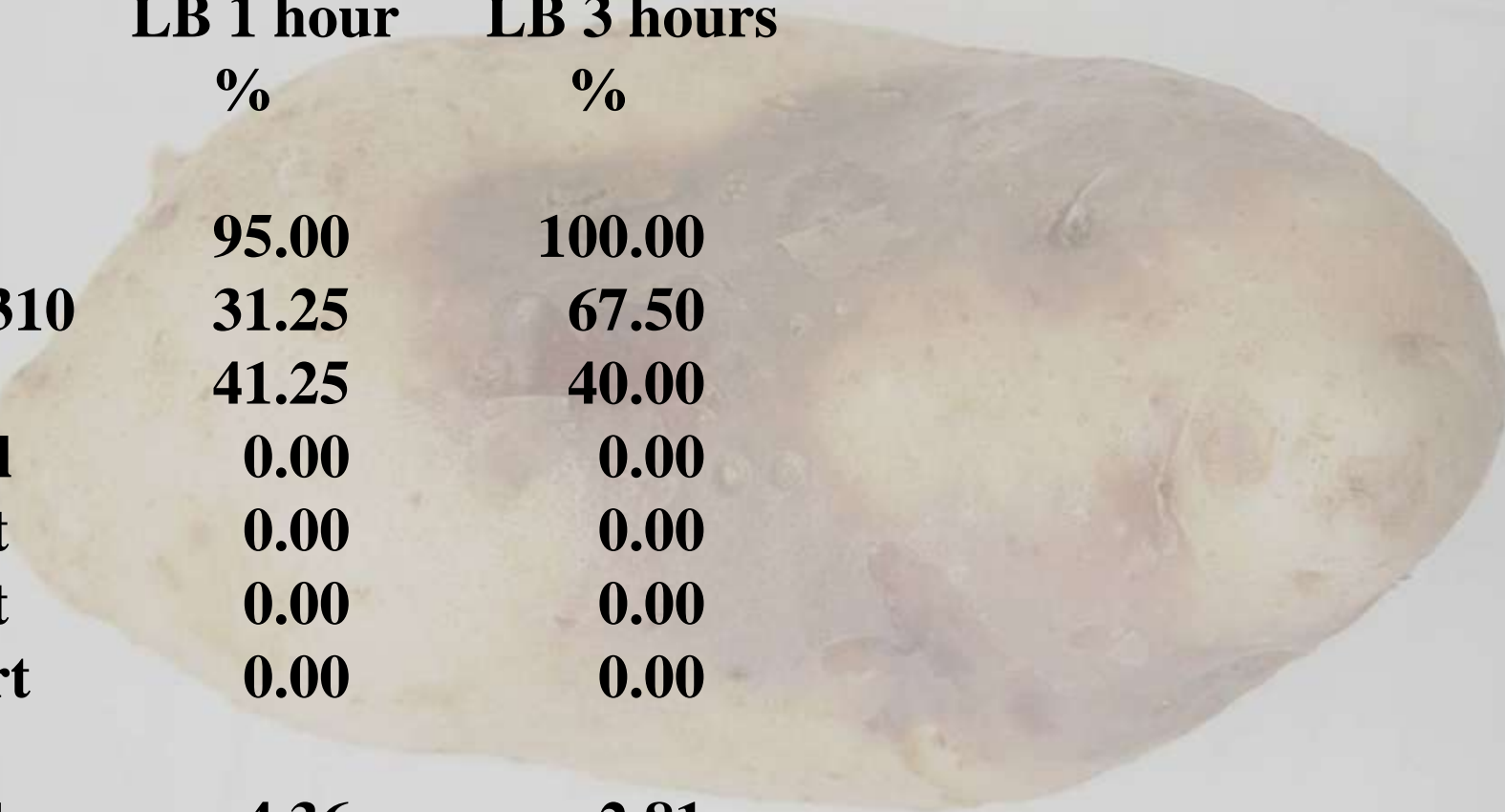
Late blight and Pink rot affected tubers by treatment

	LB 1 hour	LB 3 hours
	%	%
Check	100.00	100.00
Agclor 310	100.00	100.00
Oxidate	98.00	84.25
Phostrol	0.00	0.00
ProPhyt	0.00	0.00
ProPhyt	0.00	0.00
LSD value	2.46	7.56
at alpha = 0.05		

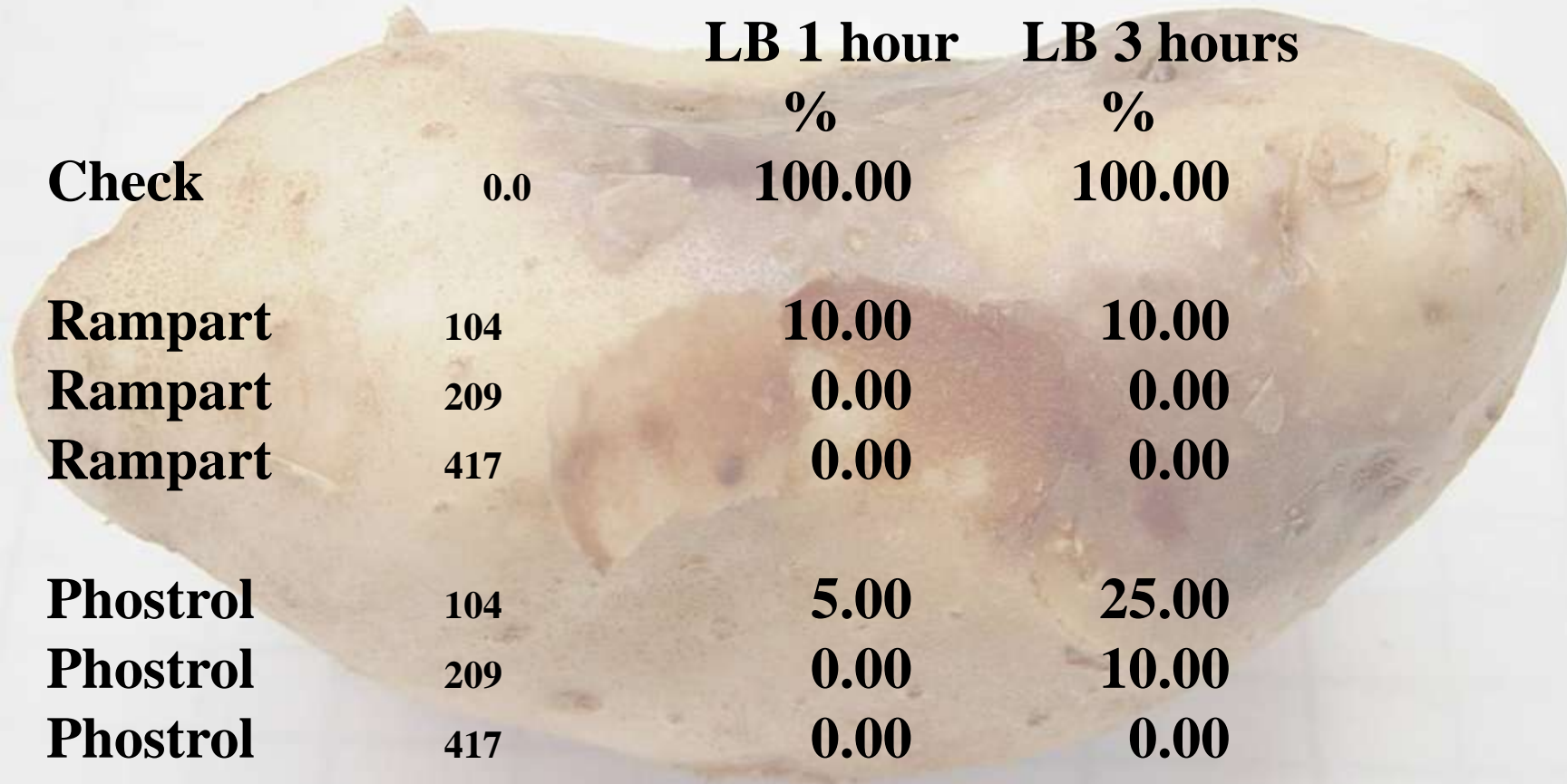


Late blight and Pink rot affected tubers by treatment

	LB 1 hour	LB 3 hours
	%	%
Check	95.00	100.00
Agclor 310	31.25	67.50
Oxidate	41.25	40.00
Phostrol	0.00	0.00
ProPhyt	0.00	0.00
ProPhyt	0.00	0.00
Rampart	0.00	0.00
LSD value	4.36	2.81
at alpha = 0.05		



Late blight affected tubers by treatment



		LB 1 hour	LB 3 hours
		%	%
Check	0.0	100.00	100.00
Rampart	104	10.00	10.00
Rampart	209	0.00	0.00
Rampart	417	0.00	0.00
Phostrol	104	5.00	25.00
Phostrol	209	0.00	10.00
Phostrol	417	0.00	0.00
LSD value		10.42	10.42
at alpha = 0.05			

Coverage, Coverage, Coverage



**2 liters of solution per
1000 kg of potatoes**

A photograph showing a large number of yellow potatoes of various sizes and shapes, scattered on a crinkled black plastic tarp. The potatoes are the central focus, with some showing small green spots. The background is the dark, textured surface of the tarp.

**0.8 liters
per 1000 kg**



**1.1 liters
per 1000 kg**



**1.6 liters
per 1000 kg**

A large pile of yellow potatoes is shown on a black plastic tarp. The potatoes are of various sizes and shapes, some round and some elongated. The tarp is wrinkled and has some reflections. The text "2.1 liters per 1000 kg" is overlaid in the bottom left corner.

**2.1 liters
per 1000 kg**

A photograph showing a large quantity of yellow potatoes of various sizes and shapes, scattered on a crinkled black plastic tarp. The potatoes are the central focus, with some being quite large and others smaller. The background is the dark, reflective surface of the tarp.

**1.6 liters
per 1000 kg**



**1.1 liters
per 1000 kg**

A photograph showing a large quantity of yellow potatoes, likely a variety like Yukon Gold, arranged on a crinkled black plastic tarp. The potatoes are of various sizes and shapes, some round and some more elongated. The lighting is somewhat dim, highlighting the texture of the potato skins and the sheen of the plastic.

**0.8 liters
per 1000 kg**

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