

CHLOROPICRIN SOIL FUMIGANTS
A
POSSIBLE FERTILIZER SUBSTITUTE

by
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Dr. Kunkel, Soil Scientist, W.S. U. and a Fertility Specialist has said that the potato might grow indefinitely if something such as nutrients, disease or weather did not stop it.

Since this is one of the longest potato growing regions in the world, and since 10 years ago few growers knew of or heard of soil diseases on these new projects, and since more new land was relatively low cost and fertilizer costs were less than they were 30 years previous - POUR ON THE FERTILIZER, was the motto.

Everyone talked of it coming someday, but not with such a BANG!!! All in one year. Now - fertilizer shortage and fertilizer price doubling in cost and much higher land values if for nothing else than growing wheat.

Fumigation for Verticillium wilt is twice as old as fumigation for nematode control in the Basin. Nematode fumigation became a must at the horrendous price of \$40.00 per acre only 5 years ago.

Dr. Kunkel was the very first to put on fumigation trials for Verticillium Wilt Control on potatoes in this area in 1961. He already then, proved high yield responses to Chloropicrin & combination fumigants in older potato soils. Those costs per acre were in the \$100 per acre area. \$100 per acre then represented maybe the same cost as about 1-1/2 tons of fertilizer. For those using less than 1/2 a ton it seemed cheaper to go towards the 1 ton fertilizer rates. BUT - have the yields really gone up dramatically or have they leveled off?

Since 1961 Dr. Easton has narrowed down some effective ranges and added other methods to come closer to \$75.00 per acre.

Since 1961 Chemical companies have obtained registrations of several various formulations (much like fertilizer ratios) which can suit various grower conditions and field disease intensities. As a result Chloropicrin mixtures can be used from \$40.00 to \$75.00 per acre.

Commercial - I'll show you an aerial photograph over Moses Lake, Washington, which is only a couple of months old since last fall. It will show what happened when the fumigation machine was turned off. The Chloropicrin mixture was used at \$55.00 per acre on that large field. That Moses Lake grower reported that his crop would normally quit growing in 90 days. This field was still growing at 120 days (day of the picture) and needed a vine killer, to stop that growth which Dr. Kunkel talked about. If he wanted to stop the growth in 120 days, should he have maybe used slightly less fertilizer or nitrogen?

Today, at \$55 - \$75.00 per acre we are only \$15 - \$35.00 away from meaningful soil disease suppression compared to the \$40.00 nematode fumigation that is already a quite standard practice. Only \$15 - \$35.00 per acre away from maximum potato production on some of the oldest potato soils in this Basin. How does that compare to:

- a. Putting in new sage brush land even if you could get the fertilizer for it?
- b. The 1-1/2 ton cost consideration comparison of fertilizer prices and the \$200.00 per ton figures of today?

That represents about 1/10th of a ton of fertilizer.

California strawberry production has doubled over the past few years. All this without any increase in acreage. The entire credit is given to Chlorpicrin containing soil fumigants.

In 1974 what other choices are there for maximum production? Particularly if fertilizer availability is limited.

I hope you don't all grow wheat!!! I hope the slogan is still MEAT & POTATOES.