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Get set - Silos going 'gas-tight'

For graingrowers storing their grain on-farm, it's becoming a case of 'Get set - we're going gas-tight'.

The widespread and rapid decline in the effectiveness of the grain fumigant Phosphine has meant gas-tight silo's have to become the standard storage facility.

Indeed, a new Australian, independently accredited manufacturing standard has been put in place in response to the industry-wide concerns about the looming loss of Phosphine.

Grains Storage Specialist, Peter Botta, fully supports the initiative, saying it's essential if industry wishes to keep the fumigant (and future fumigants) as a viable option.

"Phosphine is costing 30 to 50cents/tonne to use. New products could be \$2/tonne or more and may be more difficult to use.

"Obviously, we need to keep it, but at the rate we're going with grain storage insects developing resistance to Phosphine, something's got to change.



"Changes to the Phosphine labels have already occurred, which state that phosphine concentration must be maintained for the recommended rate and length of time. This effectively means phosphine must be used in a gas-tight silo.

Future changes to the labels are also foreshadowed, which would see the label actually refer to using the product in gas-tight silo's that meet the new Australian standard."

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The key aim is to manage stored grain with biosecurity in-mind, to ensure the quality of grain sold is as close as possible to the quality that went in at harvest time.

He says a silo needs to be thought of as a fumigation chamber, which means it has to be 'gas-tight', rather than 'sealed'.

"In some supposedly 'sealed' silo's, growers have been fumigating with Phosphine and killing the adult insects, but not killing their eggs and pupae, which are tolerant of Phosphine. The only way to check if your old silo is gas-tight is to do a pressure test to see if air is escaping. For new silo purchases, make sure they meet the new standard and do regular pressure tests.

"The goal is to fumigate all of the insect population, to control all stages of the life cycle, not just give the illusion of control, at best controlling the adults".

In an on-farm situation, the fumigation period on label is 7 to 20 days, depending on the formulation. Peter Botta says this indicates the silo needs to hold the Phosphine gas for all of this period - without leaking out and he asks: What's the point of using a leaky silo?

"'Sealed' and 'gas-tight' are not the same. 'Sealed' silo's may not be suitable for fumigation. It's imperative to have gas-tight silos.

"There never was an Australian standard for gas-tight sealed silo's. There were engineering standards, but there was nothing regarding effectiveness of being gas-tight.

"The new, agreed standard allows growers to go to manufacturers and put the question: 'does your silo meet the gas-tight standard?'"

He says the new standard benchmark can be used to make the right business decision, and adds there are two key factors in using Phosphine sustainably:

1. a gas-tight silo needs to meet the 5-minute half-life pressure test
2. products need to be used according to the label – especially with regard to exposure periods and dose rates

Gas-tight silo's may come at a 10-15% premium over standard silo's, but industry experts say this is a minimal cost compared to the price of total insect resistance to Phosphine.



Losing use of Phosphine to control insects will affect not only the overall cost of storing grain but also potentially our markets, as most have a nil tolerance for live insects. Phosphine is therefore one of our most important tools for market access.

Peter Botta concludes by saying that if the grains industry loses the ability to use Phosphine through the development of even more resistance and another agent is required, the irony is that it will still need to be used in a gas-tight silo.

For all grain being stored on farm, regularly check for insects and mould. In addition to the everyday weevils and beetles, there are a range of grain pests and diseases that Australia doesn't have and doesn't want. These could come in on imported farm machinery or hitch a ride on clothing or footwear on the steady stream of overseas travellers.

If you see anything unusual on your property, call the Exotic Plant Pest Hotline on 1800 084 881.

For more information, see <http://www.farmbiosecurity.com.au/diseases.cfm>

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