

## **Keeping it Safe**

Harvest is underway and this year it appears to be good in most parts of the NAR! Considering the very difficult period many farmers have just been through it's even more vital that you get the maximum value out of your stored grain.

Recently I have come across a couple of cases where all the effort of harvesting a dismal crop has been lost due to a failure to control weevils after the grain is loaded into the silo. When you load grain into a silo you are also adding water and even at 10% moisture content this means you have just loaded a lot of water into a 50 tonne silo!

Insects need moisture and by consuming grain or grain fragments liberate some of this water. Convection currents in the silo can carry this water vapour to the headspace where it will condense on a cold night – which is why this is often not seen until autumn. When it falls back as water it creates the ideal conditions to activate the mould spores or bacteria that have come into the silo on the grains. The moulds also create moisture and that helps insect development, so you have a relationship between insects and mould going on in the top of your silo turning quality grain into rubbish. (see photo)

## **Aeration**

You can prevent moisture accumulating by installing low cost aeration. This keeps the grain cool and moves the moisture insects create out of the top of the silo and preventing moulds and bacteria developing. Aeration units for a 75 tonne silo (0.5 hp) including the internal duct cost about \$750 and they are easy to fit yourself.

The value of aeration for grain storage cannot be understated, keeping grain cool is smart management, it preserves quality and keeps insects in low numbers. And the bigger the silo the more important it becomes.

Insects rely completely on their environment to develop – they are ectothermic – that is they have no metabolic process to maintain their internal body heat. So we exploit that by keeping grain cool and dry and the population develops very slowly. This is ideal for grain stored for use on farms such as seed or feed and is particularly valuable for lot feeding enterprises.

It means you won't have to use phosphine and that is a good thing if the silo is not well sealed.

However if the grain is to be sold remember that it must be free of insects and so it has to be fumigated in a sealed silo. An aeratable sealable silo offers maximum flexibility when marketing grain.

For more information on grain management call Chris Newman 9366 2309 or 0428 934 509.

Pic caption – Air moisture has condensed on the roof joins and top ring and fallen back as free water creating a pattern on the grain and a large amount of mould!