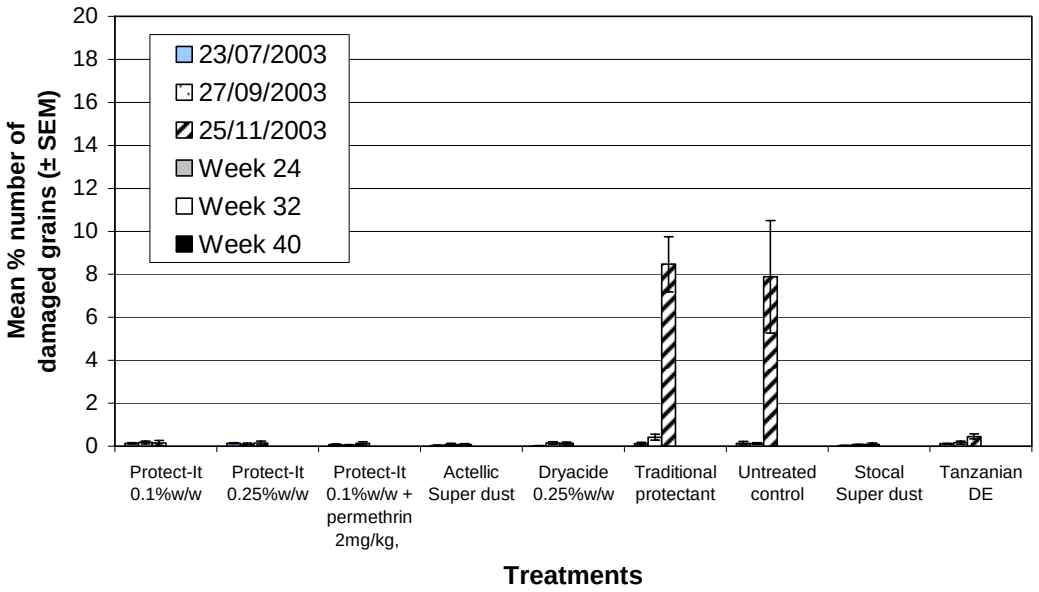
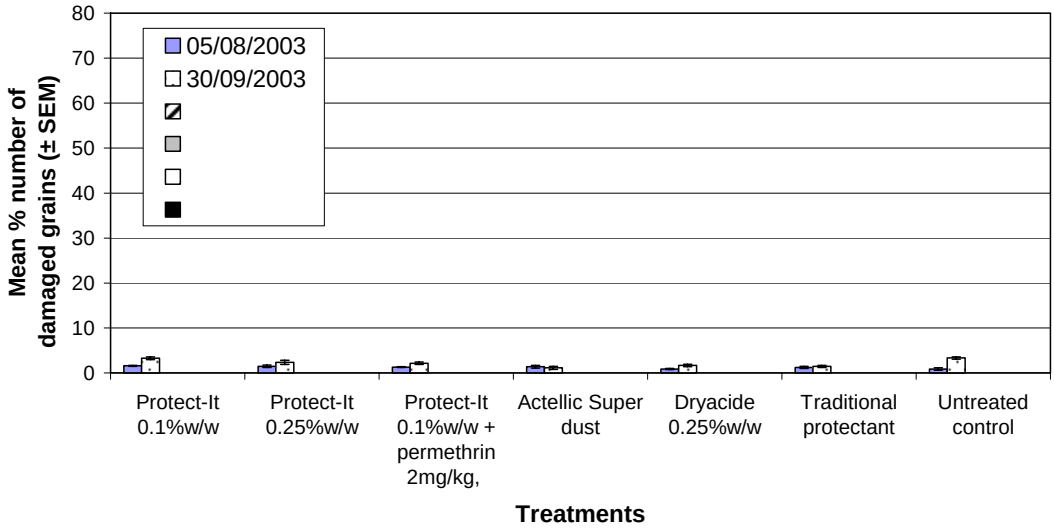
Internal project brief on preliminary data analysis of grain samples taken from the researcher managed DE trials in Tanzania during 2003/2004 storage season

Maize grain storage trial, Mlali village, Kongwa district, Tanzania (2003/04)

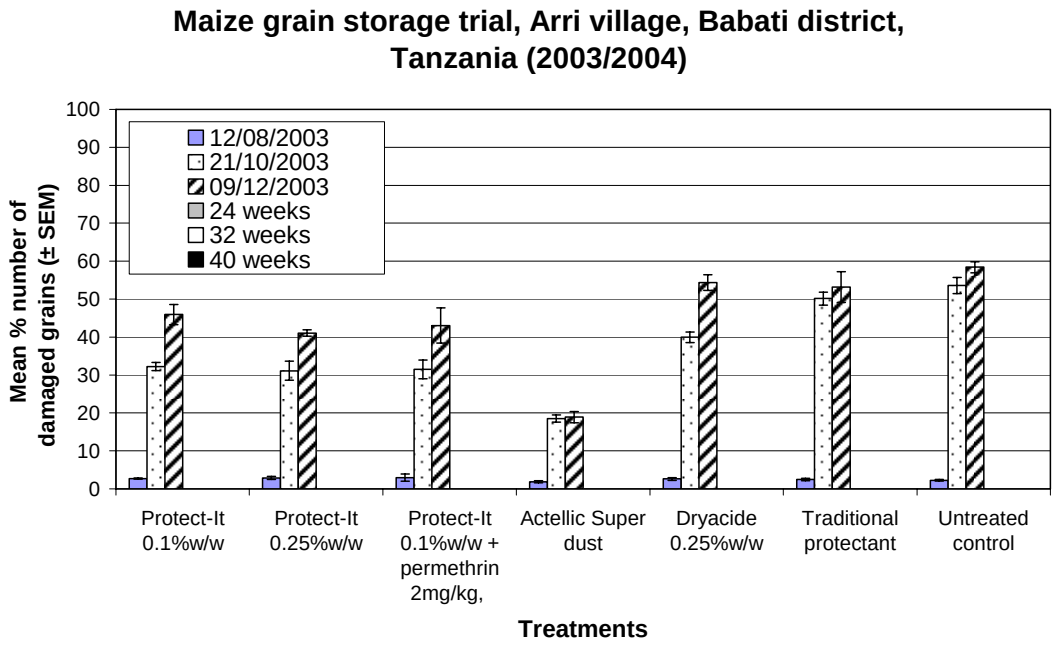


These results for Mlali are as we would have anticipated, with damage beginning to increase in the traditional and untreated controls, this damage appears to be mainly due to *Sitophilus* activity, with very low numbers of *Tribolium* and *Prostephanus truncatus* (LGB) present. Tanzanian DE appears to be performing well as does Stocal Super dust.

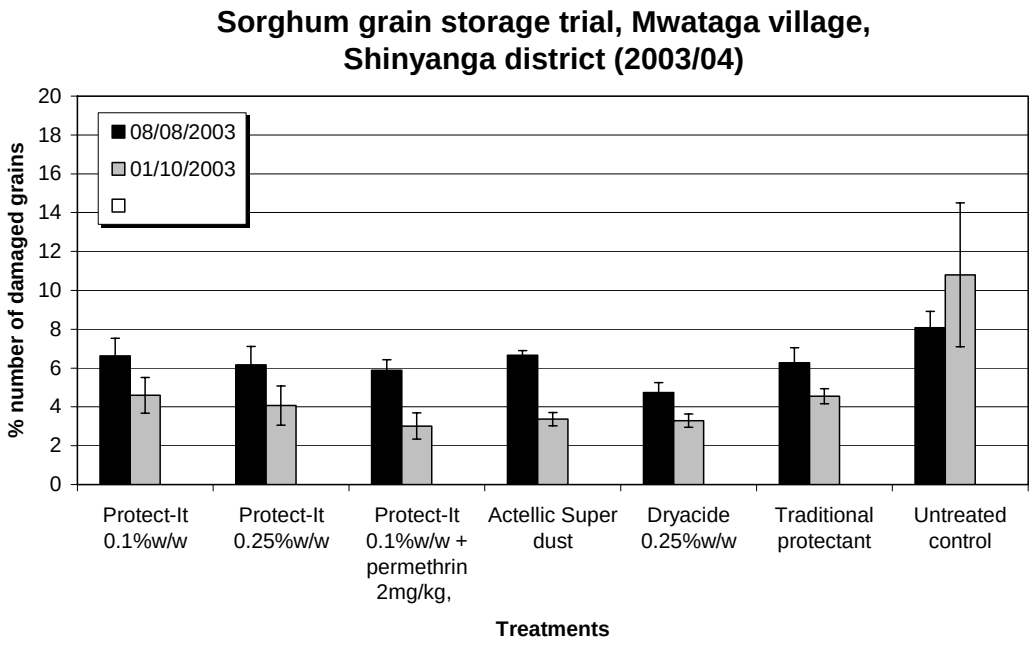
Maize grain storage trial, Mwamakaranga village, Shinyanga district, Tanzania (2003/2004)



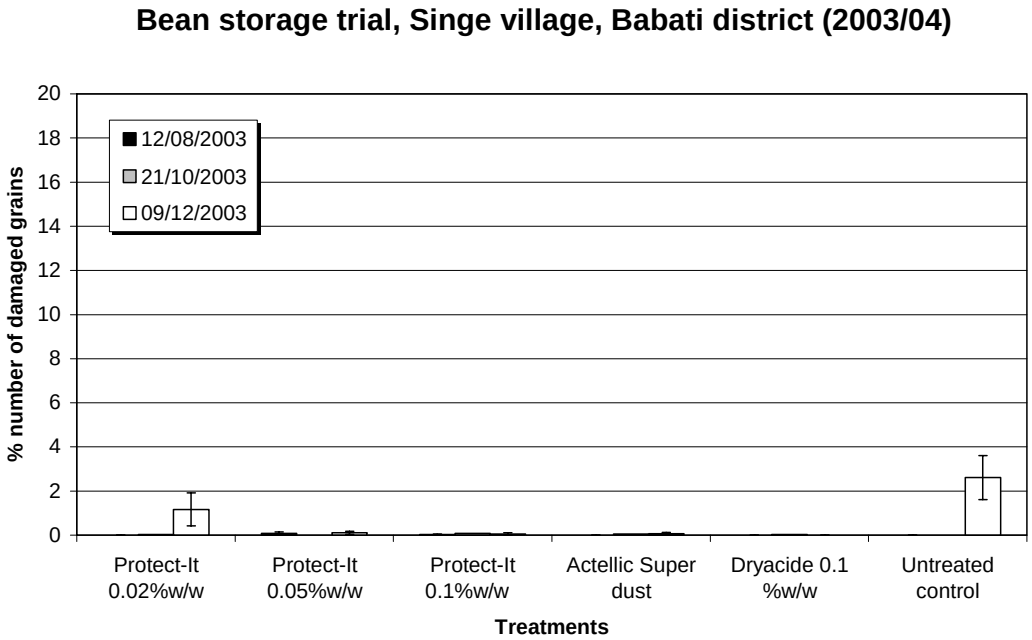
So far looks as we would expect when we look at the 16 week data we should start to see some differences between treatments.



The results for Arri show that high levels of insect damage have developed within only 16 weeks of storage in all treatments except for Actellic Super dust, this damage is due mainly to *Sitophilus* and *Tribolium*, no specimens of *Prostephanus truncatus* (LGB) were recorded at the 16 weeks storage analysis. Those of us present during the set up at Arri, will remember that the grain was crawling with *Sitophilus* and hence already heavily damaged (although the fact that only 3% of grains showed damage at set up there was lots of internal insect activity going on and this data clearly illustrates just how quickly that can escalate). *I believe that this data highlights the importance of treating grain to be stored straight after harvest*, rather than waiting as the eggs, larvae and pupae developing within the grain and thus the damage they cause can not be stopped by a contact protectant such as DE, it is only those insects who arrive after the grain has been protected with DE who come into contact with it, dry out and then die. However given that the Arri farmers told us this grain was heavily infested in the field, it would then mean that DEs were not the best option under these circumstances. However I was suspicious by the levels of damage we saw in July and wonder whether some farmers had mixed last seasons heavily infested grain with new grain, before or after selling it at Arri, particularly when we visited farmers own homes and saw their grain (apparently harvested at the same time and from the same fields) it had no evidence of insect damage. Actellic Super dust is believed to have some fumigant effects due to the pirimiphos methyl in it and it is possible this explains some of the differences, it is also possible that if the moisture content of the grain was high, then the ASD is working better than the DEs, as DEs are known not to work very well on grain with high moisture content. Mngara we need to look at the moisture content data. These are only thoughts, and we should wait for the next set of data to get a clearer idea of what is going on.



Again I think we will begin to see the differences between treatments more when we look at the 16 week data.



Results as expected.