Progress with crop growing for phytolith analysis

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One of the archaeological projects within WLC is the experimental growth of crops under different irrigation conditions to evaluate the impact on phytolith formation, as was described in the 2005 annual report.

In April and May the wheat and barley for from all three crop growing stations (Khirbet as Samra, Ramtha and Dair Alla) were harvested. This was done using a diagonal grid system so that a representative sample was taken from each of the irrigation plots. Distinct differences could be seen between the irrigation plots and between the sites themselves. Khirbet as Samra experienced fewer problems with weeds and bird attack than the other two sites and the cereals grew as one would anticipate with 100% irrigation faring the best, followed by 80% and 120%, and with zero irrigation being the least successful. Dair Alla showed unexpected differences between the irrigation regimes with the zero irrigation growing more successfully than one would have imagined. This was largely due to the higher than average rainfall in the Jordan valley during the growing season. The plots at Dair Alla were overrun with weeds and many of the plants were attacked by birds. To try and eliminate the bird attack meshes were suspended over some of the plots which led to increased humidity and weed growth. Mesh coverings were also used at Ramtha to protect the plants from the birds. However, the same problems with humidity were not encountered because the temperature at Ramtha was lower. The sorghum from Dair Alla was ready for harvesting before the sorghum at the other two crop growing stations because of the higher temperatures in the Jordan valley. Harvesting of sorghum from Khirbet as Samra and Ramtha will take place in August. Sub-samples of wheat and barley were exported to Reading with 60 plants being taken from each of the plots harvested. Dry and wet-ashing for slide preparation of the 100% irrigated wheat from Khirbet as Samra began in July and experimentation with the methodology is in progress. In July the Jordanian members of the team (Khalil Jamjoum and Sameeh Nuimat) visited Reading to learn more about the various parts of the project, to meet the rest of the team and to plan the next year's experimental crop growing.

Figure 1: Wheat harvesting at Khirbet As Sumra.

Pictured are Emma Jenkins, Bill Finlayson, Sameeh Nuitmat and Khalil Jamjourn.