

Manufacturing textiles was one of the main economic activities of ancient communities in prehistory. In addition to gathering food and building shelter, the textile industry was one of the basic survival strategies. Already in the Neolithic period, our ancestors developed textile tools and techniques, which they then successfully used to create textiles for thousands of years. Unfortunately, the organic nature of textile artefacts means that finds of this type are rare. The tools themselves have survived much more often, such as clay spindles used to load the spindles while spinning threads or needles used, among others, for stitching materials.

The aim of the presented project is a comprehensive analysis of textile tools discovered in burials from the Roman period in the cemeteries in Lubowidz, Czarnówek and Wilków, Lębork district. This will allow identifying the correlation between the textile tools deposited in the graves and the textile residues discovered there (including the relationship between the diameter of the yarn used in the fabric and the weight of the spindle), as well as to determine the advancement of textile production and its organization level. An equally important element of the project is the reconstruction of the fabric made based on archaeological fabrics, which will allow you to "touch" and imagine what the fabrics might have looked like before they were placed in the graves together with the deceased representatives of the Wielbark culture.

It is also planned to carry out detailed analyzes that may answer the question of whether the textiles discovered in the graves were local products or imports from distant areas, e.g. from Scandinavia or the areas of the Roman Empire. The scanning electron microscope (SEM) examination of the fibres will allow determining what quality of wool was used in the preserved fabrics, which may indirectly indicate advanced methods of fibre processing and the specificity of sheep breeding in terms of obtaining high-quality fleece. Analyzes of carbon ( $^{13}\text{C}$ ), nitrogen ( $^{15}\text{N}$ ) and strontium ( $^{87}\text{Sr} / ^{86}\text{Sr}$ ) isotopes will be carried out for fabrics from the period of Roman influence discovered in Poland for the first time. UPLC-PDA identification of dyes helps identify plants that have been used to dye fabrics, which may also indicate extensive contacts and advanced technology.

The innovativeness of the presented project consists in looking at the textile economy as a whole, which includes both the textiles themselves and the tools used for their production, and the use of the most modern analyzes and research methods that have been successfully used in other centres for over a dozen years. So far, research on the textile industry of the Roman period has focused mainly on the fabrics themselves and their technological analysis (describing, among others, the weave, thread density per 1 cm, twist direction). In the last decade, techniques of chemical analysis have developed significantly, which can now set new trends in the research of archaeological textiles in Poland. On the other hand, thanks to experimental archaeology, additional data will be obtained that will allow determining the labour and time consumption of spinning and weaving.

To sum up, the innovative research methods used in the project will present the textile economy of Wielbark culture in a new light and will allow determining the status of people who dealt with this production. Both the tools and the remains of fabrics preserved in the graves of the Wielbark culture give us a unique opportunity to conduct extensive, interdisciplinary research on the production of textiles and the place of craftsmen in the structure of the Wielbark culture community.