

Sesame (Sesamum indicum L.) pollen in 14th century cesspits from 's-Hertogenbosch

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The identification of pollen of sesame, Sesamum indicum L. from 14th century cesspits in 's-Hertogenbosch, the Netherlands, is recorded and discussed.

In 1984 excavations were carried out in the grounds of the 18th century cemetery of the St Jan church in 's-Hertogenbosch. Below the level of the cemetery, remains of successive houses and yards from the 13th and 14th century were revealed. Among the features excavated were several cess- and rubbish pits. At the request of the town archaeologist, samples from the pits were analysed by the author for botanical and zoological remains (publication of the complete results is in preparation).

The pollen analysis appeared to be very important in proving the former use of foodplants of which the parts used are not easily preserved. One of the most interesting finds was the pollen of the sesame plant, Sesamum indicum L. Up till now, three pollen grains have been encountered in two cesspits from a 14th century context, though no macrofossil remains have been found.

S. indicum is an annual herb belonging to the family Pedaliaceae. Pollen -grains of this family are usually 5-13-colpate and oblate-subprolate. The size (35 x 40 urn) and the aperture number of the pollen grains from the cesspits (Fig. 18) suggest that they are S. indicum pollen. Other Sesamum species have fewer colpi and are usually much bigger. S. indicum is 9-11-colpate and oblate. The exine is about 3 urn thick at the centre of the mesocolpia, the nexine distinctly thicker than the sexine and lens-shaped between the colpi. The sexine consists of pila that are densely but irregularly arranged. The outline in polar view is more or less circular or slightly polygonal and the equatorial view is elliptical (Erdtmann 1952; Raj 1961; Alvarado 1983).

Sesame is a native of hot, dry, tropical parts of Africa. From there its cultivation spread quickly via Egypt and the Middle East to almost all tropical and subtropical parts of the world. The first record of it as a cultivated plant dates from about 1600 BC in Mesopotamia. Sesame is cultivated for its seeds, which can be used as a flavouring or for the extraction of oil (they contain up to 55% oil). Together with olive oil, that of sesame is amongst the oldest edible oils (Brouk 1975; Zeven and Zhukovsky 1975).

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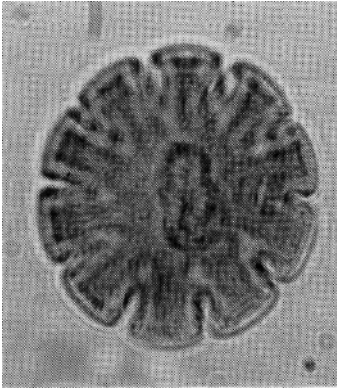


Figure 18. Pollen of Sesamum indicum from 14th century 's-Hertogenbosch. Size - 35 x 40 urn.

Although the use and cultivation of sesame was known to the Romans (Pliny, Natural History XVIII), there is no evidence that they introduced it to Europe. According to Kaufmann (quoted by Fischer 1929), it was brought to Europe by the Crusaders (11-13th centuries), together with pistachio, lemon, apricot, watermelon and St John's bread (carob). So far, I know of no other archaeobotanical records for this plant.

The presence of sesame pollen in the above-mentioned cesspits is undoubtedly an indication of the use of sesame seeds or oil by the former users of the pits. The pollen probably adhered to the seeds or was present in the oil, because it seems highly improbable that the plant was grown locally.

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