



Mathurin Hybrid Initiative

# Global Advisory Report

Development in the  
Preservation of Ancient  
Knowledge.

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## Ancient Knowledge Preserved by Unlikely Hero

A team of international researchers has found that wasabi, the spicy green sushi companion, can be utilised to save ancient papyrus manuscripts from fungal contamination. Hanadi Saada, a researcher at the Grand Egyptian Museum, highlights that ‘The bio-deterioration of papyri is a worldwide problem’, leading to the loss of ancient artefacts, knowledge, and pieces of cultural significance.

## What is Papyrus?

The ancient Egyptians used a paper made from the stalks of a reed called Papyrus – or paper plant. It is a grasslike aquatic plant that grows up to 4.6 meters tall and can be found in slowflowing water. The ancient Egyptians grew the plant in the Nile Delta region, using it to make paper, sails, cloth, mats, and cords. It was the chief writing material in ancient Egypt, eventually adopted by the Greeks and used extensively in the Roman Empire.

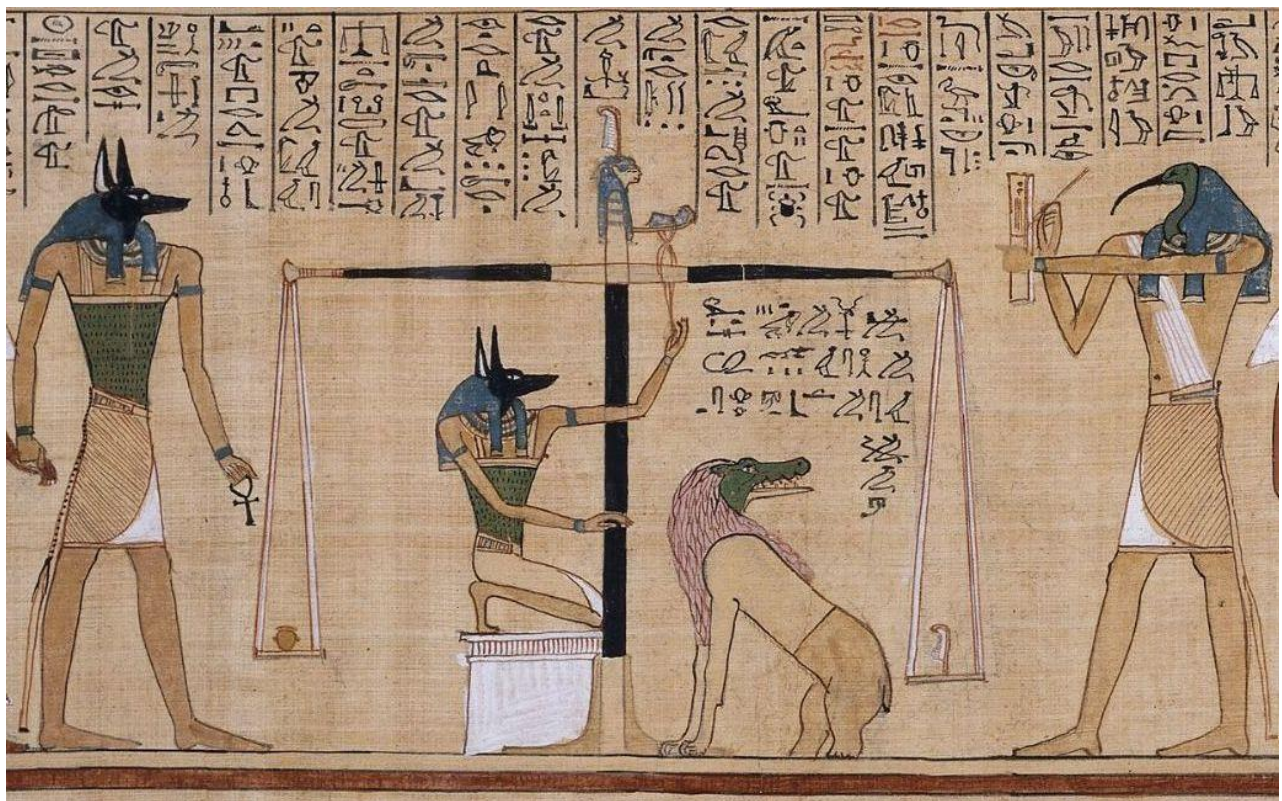


Figure 1: Egyptian Book of the Dead: from the Papyrus of Hunefer (c. 1275 BC)

## Wasabi Preservation:

This unique disinfecting strategy could help archaeologists and museums preserve documents from ancient history.

Wasabi vapours are potent enough to kill fungi growing on painted papyrus – without damaging the fragile paper or impacting the appearance of their, at times, vivid colouring.

Wasabi is a plant like horseradish and mustard. It is native to Japan and the Russian Far East. It grows naturally along stream beds in mountain river valleys in Japan.



*Figure 2: The humble Wasabi plant.*

The fungi can damage delicate papyrus, but some disinfectant solutions can be just as damaging. Saada and her colleagues have been dedicating time and resources to the research of less harsh, green alternative treatments.

For the experiment, they placed wasabi on an aluminium foil next to papyrus samples that were exposed to several mycological species known to degrade archaeological papyri.

After three days, the scientists checked back in and found that the contamination had vanished. The exposure to the wasabi vapours even increased the sample's tensile strength by 26 per cent. The Grand Egyptian Museum plans to move forward with the use of wasabi in the preservation of its archaeological papyri.

This discovery could have a positive impact on other large collections of papyrus. Papyruses contain all manner of ancient wisdom and cultural importance, including the Egyptian Book of the Dead, the Will of Naunakhte, treatises on medicine and surgery, the only extant copy of the Greek playwright Menander, many different Biblical sections, Book V and VI of Homer's Iliad, and the Vision of Dorotheus, one of the earliest examples of Christian hexametric poem. The Museo Egizio hold one of the world's most significant papyrus collections with nearly 700 whole or reassembled manuscripts and over 17,000 fragments of content. The Egypt Exploration Society houses over 500,000 fragments of literary and documentary texts. It seems that the humble Wasabi will become a preservative of important historical artefacts.

## Reference material:

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