

## **MIND FOODS HUB: GENETIC IMPROVEMENT OF CUCURBITA MAXIMA FOR CAROTENOIDS CONTENT**

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MIND Foods Hub is an innovative agri-food research project funded by the “Research and Innovation Hub” call of the Lombardy Region. It has an unprecedented breadth and dimension and brings together research institutions of excellence and companies of international standing and rooted in the territory. One of the main objectives is the sustainable production and processing of plant products and derivatives with an excellent nutritional profile.

In this work new varieties of pumpkin are being developed with a breeding program based on “pedigree method” with the aim to improve the carotenoids content and to improve the sensory characteristics and consumer acceptability. Pumpkins and squashes (*Cucurbita L. spp.*) are a plant crop widespread in the world. The genus *Cucurbita* is characterized by a large genetic variability. The three most important species are *Cucurbita moschata*, *Cucurbita maxima* and *Cucurbita pepo*. *Cucurbita maxima* is considered the most appreciated species not only in the most developed countries but also in low-income countries where *Cucurbit* is often used in intercropping with other plants like maize and bean. It also represents an important resource of vitamin A. The vitamin A deficiency (VAD) is an issue that could be solved with an enough integration of carotenoids in the diet. Pumpkins and squashes are rich in carotenoids, especially in  $\beta$ -carotene and in sugars, starch, vitamin C, vitamin E and fiber. In this work, the last progresses regarding the development of the most promising materials will be shown.