

## Influence of different N-fertilization levels on Maca growth and yield (*Lepidium peruvianum*)

### Status

Completed

### Duration

05.2018-03.2019



### Description

Originally Maca comes from Peru and it is consumed there as an aphrodisiac and for increasing performance capacity. Nowadays Maca is considered a so-called superfood and is increasingly in demand by the world population. Therefore, research studies on cultivating Maca in other climatic regions are being conducted. This work deals with the influence of different N-fertilization levels on Maca growth and yield at different cultivation periods in Southern Germany. For this purpose, Maca was cultivated in a field trial in Renningen with four different N-fertilization levels (0 kg N ha<sup>-1</sup>, 20 kg N ha<sup>-1</sup>, 40 kg N ha<sup>-1</sup>, 60 kg N ha<sup>-1</sup>). The trial was carried out in 2018 with the same fertilization levels in spring (May - August) and in the autumn (September - November). In this trial, Maca had the significantly highest weight in tuber and leaf in autumn with a N-fertilization between 20 - 40 kg N ha<sup>-1</sup>. Due to a very hot and dry summer, only very few plants were harvested in spring cultivation, which also did not show any significant difference between the fertilization levels. As the temperatures in autumn were similar to the temperatures in the Maca growing region in Peru, the results suggest that cultivation in Germany in autumn is more suitable for the development of Maca plants. Thus, if summers in Germany are expected to remain as hot as in 2018, Maca should not be planted in spring. As was also suspected in some other experiments, the results of this experiment indicate that the Maca plant is probably a short-day plant. It can therefore grow optimally in the late year with decreasing day length. In conclusion, it can be said that the cultivation of Maca in Germany can be successful in autumn with a N-fertilization between 20-40 kg N ha<sup>-1</sup>.

### Involved persons

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