

Effect of seasonality and plant age on the characteristics of *Aleurites moluccanus* leaves

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INTRODUCTION

Aleurites moluccanus is known as indian walnut, its leaves are widely used in folk medicine to treat pain, fever, asthma, hepatitis, gastric ulcer and inflammatory process in general. Previous seasonal studies have shown that the winter was the best season to collect the leaves. This work aims to analyse the influence of the season and the age of the plant collected from two different areas on yield, relation leaf:petiole, macroscopic characteristics and also on the content of ash and loss on drying of herbal drug.

MATERIAL AND METHODS

Three samples of *A. moluccanus* leaves were collected in the 2022 summer in Tijucas (Santa Catarina): old plant (V1) and young plant of about 8 years old (V2) besides a newly planted, 2 years old (V3) in Camboriú (Santa Catarina). Both farms use organic cultivation. Sample collection was repeated in 2022 autumn in the same places and called O1, O2, O3 respectively. First of all it was analyzed the yield of the leaves, after drying the herbal material in a circulating air oven at 35 °C. The aspect and the relation leaf:petiole was analysed, as well as, the loss on drying and total ash.

RESULTS

The herbal drug (leaf and petiole) showed variation according to plant age, as older the tree, smaller is the leaf

and petiole, and less globules are present in the leaf limb. The yield of the dry material was 31; 35 and 31% to V1, V2, V3, respectively, with low variation in relation to the age of the plant. In the autumn, the yield was 36, 37 and 26% to O1, O2 and O3, respectively, The leaf:petiole ratio is 5.1:1, 5:1 and 4.5:1 to V1, V2 and V3, while in autumn the ratio is: 5.5:1, 5.3:1 and 3.5:1 to O1, O2 and O3 respectively. The total ashes average was 6.9, 9.6 and 6.9% to V1, V2 and V3 respectively, while for autumn samples were 10.2, 11.4 and 7.5% for O1, O2 and O3 respectively. The loss on drying was 14.2, 14 and 15.2% to V1, V2 and V3, respectively, while in autumn was 15.6, 10.8 and 17.1% to O1, O2 and O3 respectively.

CONCLUSIONS

The age of the three affected the shape and the size of *A. moluccanus* leaves. The herbal drying yield was higher in autumn, for the older material. More analyses must be performed to characterize the samples in the other seasons of year aiming to establish the ratio for each analytical test.

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