The embryo and the endosperm confer distinct lipid features to argan oil.

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Argan oil recently emerged from anonymity and is now considered one of the most expensive edible oils worldwide. Argan oil is extracted from seeds of *Argania spinosa*. Whatever the method employed for oil extraction, traditional or semi-industrialized, the argan 'kernel' is always processed as a whole. However, our preliminary observations of the argan seed structure revealed that it is made of two distinct tissues, embryo and endosperm. Because the two tissues are of apparent equal contribution to the seed mass, the separate determination of their lipid composition is of crucial importance to understand their respective contribution to the argan seed oil content and to argan oil characteristics. The two tissues were analyzed. Their respective mass, oil content, fatty acid, sterol, triterpene alcohol and tocopherol composition, were investigated using a factorial experimental design that included four years of study. The present study shows that the embryo and the endosperm contribute equally to seed oil yield. Considerable differences in fatty acid composition were observed between the two tissues. In particular, the endosperm 18:2 percentage was two-fold higher than that of the embryo. The tocopherol content of the endosperm was also markedly higher than that of the embryo. In contrast, both tissues had similar sterol and triterpene alcohol contents and compositions. One practical application of this result could be the production of argan endosperm oil, which would be richer in tocopherols than the oil extracted from whole kernels.

Key-words: argan, embryo, endosperm, tocopherol, 18:2.

Phenotypic and molecular characterization of two thermophilic aerobic bacteria strains isolated from an Algerian hot spring and investigation of their hydrolase production.

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During our study of the OuledAli hot spring (Guelma, Algeria), two thermophilic aerobic bacteria, strains OA23 and OA30, were isolated and were subject of taxonomic investigations. Hydrolytic activities were also appreciated.

These strains were isolated from water samples. Samples were plated on agar medium containing (per litre): 8 g pepton, 0.4 g yeast extract, 0.2 g NaCl (pH_{medium}= 7.0, incubation at 55°C).

Phenotypic analysis was performed according to the proposed minimal standards for the description of new taxa in the order of *Bacillales*. The requirements for NaCl, pH and temperature were determined on specific media. Catalase and oxidase, tests for formation of indole and hydrolysis of starch, hydrolysis of gelatine, casein and Tween 80, test for urease, use of carbohydrates and other compounds as carbon sources and acid production from these compounds were all carried out.

The two strains showed an important proteolytic activity on gelatine and casein media. Phenotypic analysis shows important similarities with *Geobacillus* and *Anoxybacillus* genera.

OA23's and OA30's 16S rRNA genes were amplified by PCR using universal primers. Multiple sequence alignments were performed using ClustalW. Phylogenetic trees were constructed on the basis of the neighbour-joining method using Mega 6 program package.

Strain OA23 falls within the species of *Anoxybacillus* and exhibited the highest 16S rRNA gene sequence similarity to *Anoxybacillus flavithermus* strain UTM109, (99% similarity). Strain OA30 falls within the species of *Brevibacillus* and exhibited the highest 16S rRNA gene sequence similarity to *Brevibacillus thermoruber* strain423, (98% similarity).

Key-words: thermophilic, bacteria, hot spring, Algeria.