

中国农林核心期刊(A)
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中国科技论文统计源核心期刊
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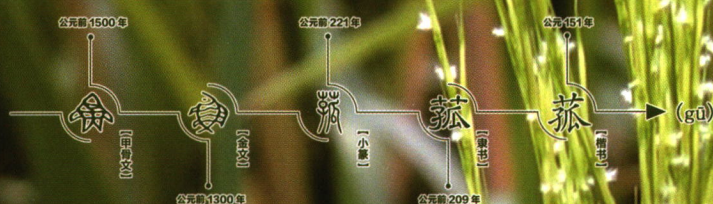
分子植物育种

MOLECULAR PLANT BREEDING

FENZI ZHIWU YUZHONG

菰 (菰米) Gū (Gūmǐ, Chinese Wild Rice)

2023年5月 第21卷 第10期 (半月刊)
Vol.21 No.10, May, 2023 (Semimonthly)



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《分子植物育种》

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菰 (菰米) Gū (Gūmǐ, Chinese Wild Rice)



■ 中文撰写 / Chinese writer: 郭天霞 / Guo T.X.

英文翻译 / English translator: 宣佳 / Xuan J.

照片提供 / Photo provider: 陈涛 / Chen T.

菰米, 又称为雕菰、菰粱, 属于禾本科菰属的中国菰 (*Zizania latifolia* (Griseb.) Turcz. ex Stapf) 的颖果。菰米作为一种挺水植物, 和水稻一样是生长在水里的。喜富含腐殖的土壤, 其常见伴生种有香蒲、水葱等。菰米的果实由颖(谷壳)与颖果组成, 颖果多为墨绿色或浅棕色, 谷壳呈淡褐色或淡灰色。

菰米有着几千年的悠久历史, 在我国古代就作为重要的六谷之一, 并作粮食食用。《周礼·天官》记载“凡会膳食之宜, 牛宜稌, 羊宜黍, 豕宜稷, 犬宜粱, 雁宜麦, 鱼宜菰。”《礼记·内则》记载“蜗醢而菰食雉羹。”在唐代, 菰米已受到很高的重视, 且出现了人工栽培。但到了宋代, 菰米食用渐少, 多用于充饥, 而且也很少进行人工栽种, 就慢慢退出了历史舞台。

说到菰米, 我们不得不提到一种在江南非常普遍的蔬菜——茭白。茭白和菰米其实是一种植物, 虽然菰米不好采收, 但人们发现, 菰在感染了菰黑粉菌病后会分泌出一种异生长素, 刺激茎部使之不能开花结果, 茎节细胞因此加速分裂, 并将养分集中起来, 形成肥大的纺锤形肉质茎, 这就形成了茭白。

菰米属于全谷物, 具有很高的营养价值。不仅含有丰富的蛋白质、氨基酸和脂肪酸、维生素以及各种微量元素, 同时, 氨基酸构成比例合理。此外, 菰米还具有调节异常血脂、血糖等功效, 其营养保健功能已得到国内外广泛的认可和应用。

Gūmǐ (Chinese wild rice), also known as Diāogū and Gūliáng, is the caryopsis of Chinese wild rice (*Zizania latifolia* (Griseb.) Turcz. ex.) of *Zizania* genus in the family of Poaceae. As an emergent aquatic plant, Chinese wild rice grows in water like rice. It prefers to soil rich in humus, and its common companion species include cattail (*Typha orientalis* Presl), Shuǐcōng (*Scirpus validus* Vahl), etc. Its fruit is composed of husk and caryopsis. The caryopsis is mostly dark green or light brown, and the husk is light brown or light gray.

Chinese wild rice has a long history of thousands of years. It was one of the important “Liùgǔ (six cereal crops)” in ancient China and was used as food. *Tiānguān of Zhōulǐ (Rites of the Zhou Dynasty)* recorded: “Fán huì shànshí zhī yí, niú yí tú, yáng yí shǔ, shī yí jì, quǎn yí liáng, yàn yí mài, yú yí gū” (it roughly means that: The suitable way to match the food used in the diet is as follows: beef should be matched with glutinous rice, mutton with broomcorn millet, pork with millet, dog meat with sorghum, wild goose meat with wheat, and fish with Chinese wild rice. *Nèizé of Lǐjì (The Book of Rites)*: “Wōhái ér gūshí zhīgēng” (it roughly means that: With the sauce made from clam meat, Chinese wild rice and pheasant soup are perfect match). In the Tang Dynasty, Chinese wild rice was highly valued and the artificial cultivation appeared. But to the Song Dynasty, Chinese wild rice was eaten less and used more to satisfy hunger, and it was rarely planted artificially, so it gradually withdrew from the stage of history.

Speaking of Chinese wild rice, we have to mention a very common vegetable in regions south of the Yangtze River - Jiāobái (water bamboo). Water bamboo and Chinese wild rice are actually the same kind of plant. Although Chinese wild rice is not easy to harvest, it is found that Chinese wild rice will secrete a kind of heteroauxin after being infected with black powder mycosis, which will stimulate the stem to make it unable to blossom and bear fruit. As a result, the stem cells accelerate their division, and concentrate the nutrients to form a hypertrophic spindle-shaped fleshy stem, which forms water bamboo.

Chinese wild rice is a whole grain with high nutritional value. It is not only rich in protein, amino acids, fatty acids, vitamins and various trace elements, but also has a reasonable proportion of amino acids. In addition, Chinese wild rice also has the effect of regulating abnormal blood lipids and blood glucose, and its nutritional and healthy function has been widely recognized and applied at home and abroad.

ISSN 1672-416X
CN46-1068/S

邮发代号: 84-23
海外发行: SM8624
国内定价: ¥40.00
国际定价: \$40.00

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