

ROLE OF WATER IN CULTIVATION OF RICE AND WHEAT DETERMINES THE INGREDIENTS OF SEEDS

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ABSTRACT

Background: The production of rice started hundreds of centuries ago and nowadays we produce several types of cereals and rice, *Oryza sativa var japonica* in Europe. In Hungary, the rice grown from irrigation schemes established about 600 years ago and rice production restarted in high quality of ingredients from 2010. The internal values of seeds are dependent on the cultivation of ecological factor under dry or irrigated systems, of which water is a particularly important. Rice is grown under continuous irrigation with full water control in Europe. However, rice crop can suffer from drought or water shortage. The *Aim* is to investigate the reasons for this problem: (1) the farmers sow rice in excessive areas, when rice price is very high and profitable in the market. Thus, available irrigation water can't be enough for rice crop, (2) low water accumulation in the dams or less water flowing in the rivers due to low rainfall. (3) Some diseases give damage to rice crop i.e. fungal, bacterial etc. The reasons for this infection are the heavy rainfall in May, July and autumn, excessive nitrogen application, also late planting, high seed density, and cold irrigation water. *Discussion*: Due to the high temperature difference between day and night in rice mature production area, the quick-soluble double-chain sugar in rice-scented rice is accumulated more, likely the elements, which are very beneficial to human health. All these factors together with water are important in cereals to the biochemical synthesis of the ingredients giving energy: carbohydrates, fat and amino acids.

Keywords: Rice, wheat, cultivation, water, ingredients