

Italian Rice Farmers Would Lose 125 Million Euros in Annual Income without Fungicides

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Italian farmers produce 1.5 million tons of rice with a value of 416 million Euros on 238,000 hectares. The Piedmont and Lombardy regions represent 93% of the area cultivated with rice. A large number of varieties essential to both risotto and paella are cultivated in those regions.

The main pathogen of rice in Italy is the rice blast fungus. The blast fungus overwinters in rice straw and stubble. The disease spreads rapidly in the field by means of airborne spores. Severe infestations can lead to large areas of dead plants. When a blast spore penetrates the surface of a rice leaf, it does so with a force equal to 80 times atmospheric pressure or 1,600 pounds per square inch—this is by far the highest pressure recorded in living organisms. The fungus is capable of infecting rice plants in all their stages of growth.

Depending on the portion of the plant affected, the disease is also called leaf blast, node blast, panicle blast, collar blast, and rotten neck blast. When it hits the head or neck, blast stops nutrients and water from getting to the kernels, stopping kernel development. Portions of the grain head will be white in contrast to the green or tan color of healthy grain. This “blasted” appearance is caused by sterile or blank grain. Leaves and whole plants are often killed.

Historically in Italy, rice blast lowered production on fields by 5-100% [1]. Research with fungicides demonstrated rice yield increases up to 60% with control of rice blast [2]. Currently, it is estimated that 75% of Italian rice acreage is treated with fungicides for control of rice blast [3]. The cost of fungicide treatment for rice blast is 68 €/Ha, or 4% of the value of the Italian rice crop. Without fungicide protection, it has been recently estimated that, on average, rice production would decline on treated acreage by 29.8% [3]. This reduction of total produced quantities and value per acre of cultivated rice would lead to a total annual loss of €125 million for Italian farmers [3].



Flooded rice fields in Italy



Leaves infected with rice blast



Italian risotto

References

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3. Food Chain Evaluation Consortium. 2011. 1.2 Economic damage caused by lack of plant protection products against rice blast (*Pyricularia grisea*) in rice in Italy. *Study on the establishment of a European fund for minor uses in the field of plant protection products: Final report*. 159-164.