Italian Wheat Farms would Lose €99 Million without Fungicides

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Durum wheat is the main cereal crop in Italy, where it is used for making pasta, with more than 1.6 million hectares producing 4 million tons per year.

The most important disease of wheat in Italy is septoria leaf blotch which affects the leaves. Septoria leaf blotch has been associated with yield losses due to the reduction of the photosynthetic life of the canopy during grain filling [1]. Since no durable, fully resistant wheat cultivars exist at present, the main strategy to protect durum wheat from diseases is through fungicide applications [1].

Fungicides have been associated with yield increases due to the maintenance of the photosynthetic life of the canopy during grain filling. These higher green tissues are maintained by controlling the pathogens that cause the disease [3]. In an experiment in Northern Italy, during a year with high risk of fungal infection, fungicide treatments increased wheat yield by 60% [2].

Fungicide use on wheat has increased significantly with greater awareness of the impacts of disease on crop yield. In 1979, only 3% of Italy's wheat acres were treated with fungicides [5]. In 2010, it was determined that 25% of wheat hectares in central-southern Italy were treated with fungicides while 46% of hectares were treated in northern Italy [4]. Growers are advised to scout for disease symptoms and to make a single fungicide application if there are signs of the fungus.

A recent study estimated the benefits provided by fungicide use on durum wheat and common wheat production in Italy [4]. The value of fungicides was expressed as the difference between the production achieved by using fungicides and the production achieved when no fungicides are used. The study estimated that the average annual yield loss without fungicide application would be 28% in durum wheat in central-south Italy and 15.6% on common wheat in the north of Italy [4]. Without fungicide treatment, 272,000 tons of durum wheat and 168,000 tons of common wheat were estimated to be lost. The total value of the production loss was estimated at €63 million of durum wheat and €31 million of common wheat.

References
4. Salinari, F., P. Meriggi and V. Rossi. 2011. Evaluation of the benefits provided by and of the effect of losing the azole class of compounds on durum and common wheat production in Italy. Horta s.r.l. report submitted to ECPA.