

UGM and Partners from the Netherlands Apply Eco-Friendly Control of Rice Diseases

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UGM along with several partners had attempted to apply an eco-friendly and non-toxic method of plant disturbing organism control.

The method was set up as an alternative to pesticides and other chemical components that may elicit harmful effects on both farm workers and consumers.

“Plant disturbing organism is a threat for farmers because it causes significant losses to production yields. It should be controlled, but with a safe and eco-friendly method,” said Prof. Siti Subandiyah from UGM Center for Biotechnology Studies who is involved in this research cooperation.

She delivered the statement in a rice field trial and farmer group discussion with a group of farm workers in Jimbung Village, Klaten Regency, on Tuesday (6/26).

In this research, UGM cooperated with two partners from the Netherlands, Wageningen University and Research (WUR) and Koppert Biological System, as well as UPL Indonesia. In this study they



used biocontrol agents with antagonist activity to suppress diseases.

Siti explained that rice crops as the source of staple food commodity in Indonesia have not been produced optimally, mainly due to plant disturbing organisms. Some major diseases that cause more than 40% yield losses in rice production are bacterial leaf blight, leaf blast, and neck blast disease.

Claimed as the solution, the use of pesticides often elicits new problems, such as the development of new pest biotypes with resistance against pesticides, as well as cumulative toxicity for farmers and consumers causing health degradation.

“Most of the time, these diseases cause yield loss and inflict the development of new strains following the use of new rice varieties,” she explained.

A similar study has been conducted previously by some partners in Yogyakarta, Subang, and Bogor. The results obtained to date have been satisfactory. Then, a test was also conducted with farmer groups in Jember, Klaten, and Subang.

Prof. Anne Elings and Dr. Marta Streminska are the two researchers from WUR who conducted a test of biological control for rice diseases inside the greenhouse facility. Nevertheless, the results were considered incomplete without a field test. Therefore, they partnered with UGM in implementing the program in several rice production centers.

Meanwhile, Koppert is a global company engaging in technology provision for integrated pest management and it prioritizes the use of biological control agents.

“This company also helped to solve the problem of excessive use of pesticides to eliminate rice pests in Indonesia with products from the formulation of biological agents that boost plant growth and health,” explained Dr. Rick van der Pas, representative from Koppert.

In addition to solving plant diseases problems, UGM also formed this cooperation to support academic activities through graduate research programs for the development of human resources and international scientific publications that will guide UGM to become a world-class research university.

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