Insect-repelling Plants & New Organic Pesticide

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Organochlorine pesticides in agriculture are not only powerful but also pollute the soil and destroy the ecosystem. As a result, scientists are currently looking for organic pesticides that can repel pests without causing environment pollution and risk to human body. Some plants have a high potential of repelling pests and have evolved to defend themselves from pests. If different organic pesticides were combined, then it would be a better pesticide because of the synergistic effect between these components. Individual plant extracts from pyrethrum, tobacco, garlic, and red pepper were tested on how fast it killed the crickets. The median lethal dose (LD50) which indicated the potency of the organic pesticides for pyrethrum, tobacco, red pepper and garlic was 0.42, 4.93, 20, and 50 respectively. Pyrethrum had the highest potency followed by tobacco, red pepper, and garlic. The sum of the individual death rate of crickets in tobacco which was 3 and pyrethrum which was 36 was less than the death rate of 84 caused by the combination of tobacco and pyrethrum. This indicated a synergistic effect between tobacco and pyrethrum. Synergistic effect was also seen between red pepper and pyrethrum. Because of its low LD50 and high synergistic effect with other plant extracts, agriculture with pyrethrum pesticides would be eco-friendly and economical. Organic pesticide research is significant to prevent environmental pollution and decrease the effect of bioaccumulative chemicals on humans and other living things. This project will help scientists find better combinations of organic pesticides for practical use in agriculture.

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