

PHYSICAL METHOD OF COMBATING INSECTS - NEW APPROACH TO INHIBITION OF RESISTANCE TO INSECTICIDES

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Abstract A unique mixture of polymeric compounds for effective control of various insect species was tested. When applied in a free form or mixed with insecticide formulation has provided quick and even spreading increasing the likelihood that the toxicant will be transferred by contact enhancing the bioavailability of the active ingredient to the insect. It also enhances the penetration through the cuticular waxes of the exoskeleton of insect modifying the exposure profile. When applied in free form or in mixture with insecticide works through 1) suffocation -when applied it provides complete penetration of the surface of insects' body and fills its spiracles 2) Immobilization-formulation is tightly covering all developmental stages of the pest insects immobilizing them. Thus it increases the dehydratative potential of the product resulting in uncontrollable water loss, whilst increases the exposure to insecticide 3) dehydration - effectively removes hydrocarbons from insect's exoskeleton cuticular wax that normally provides the insect with protection against water loss and is therefore critical to its survival. When the protective wax is disrupted, water loss becomes uncontrollable and irreversible, leading to dehydration and death. It enhances the penetration of detoxification inhibitors inactivating the possible recovery process prior to exposure to insecticide. Hence, it would be a perfect tool to deal with expanding problem of resistance to insecticides.