“TARGETING BETTER PESTICIDE RESISTANCE IN THE STABILIZATION OF AGRICULTURAL FILMS”

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Abstract:
Greenhouse film covers and mulch films must endure extreme conditions while in service. In addition to exposure to intense solar radiation and high temperatures, the films may be exposed to high winds, hail, and other sources of mechanical stress (e.g. film tension across the greenhouse framework) throughout their service life. The films must also withstand the antagonistic effects of pesticides, fumigants and soil disinfectants, which can adversely affect the performance of the UV light stabilizers in the films. Resistance to these agro-chemicals is a critical requirement for the UV stabilizers in these agricultural films to ensure durability in use, and with the growing use of elemental sulfur as an environmentally friendly pesticide, the demand for UV stabilizers with even greater resistance is growing.
Since films are expected to last for up 3 years, it would be desirable to an accelerated screening technique which encompasses both UV and pesticide exposure to predict field performance in advance for a specific UV film formulation. Many protocols have been proposed in recent years. In this presentation, the protocols will be reviewed with performance data on several UV stabilizers.