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Agrochemical smart nano-delivery systems for improved efficiency and safety

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Pesticide is the foundation for preventing major biological disasters and the safeguard of national food security. However, conventional pesticide formulation process has presented some serious disadvantages, such as use of harmful solvent, poor dispersion, dust drift, etc. Also, pesticide loss of up to 70-90% in the field spraying process has caused some serious social concerns in food safety and ecological environment. Therefore, developing an efficient, safe and green pesticide formulation process has become a national and strategic need to protect the national food and ecological security through nano-delivery system of pesticides with nanotechnology to improve the efficacy and safety of pesticides. Advance of nanotechnology offers some new approaches for the pesticide development: Developing novel formulations of high efficacy and safety pesticide; developing sustainable agriculture system; controlling pesticide food residues and environmental pollution. The pesticide nano-delivery systems will be comprehensively introduced with perfect properties of water dispersion, chemical stability, efficacy, duration and degradation.

Biography

Yan Wang has her expertise in "Fabrication of environmental friendly agricultural inputs". She is searching for the improvement of agricultural input formulation with perfect properties of water dispersion, chemical stability, efficacy, duration and degradation with small size, big surface area and target modification. Her research involves the construction of controlled release systems of agricultural inputs using environmental friendly materials as carriers, including porous structure, encapsulated structure and emulsive structure etc.

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