The Office of Technology Management

UNIVERSITY OF TEXAS ARLINGTON

Tech ID: UTA 15:50

Nanophosphor for Visual Light Enhancement

INVENTOR: Dr. Wei Chen

TECHNOLOGY NEED

With high demand for crops, it is projected that the United States will face a fall from an average of about 257 million acres in 2015 to about 246 million in 2019 in average cultivable land mass. The non-expandable land available for cultivation poses a great threat and urge to improve crop production. Nanotechnology, a prominent driving force in modern agriculture, has played a crucial part as an agrochemical agent, delivery mechanism and has improved crop protection and sustainability. The current state of art supports direct chemical usage to increase crop productivity which potentially makes the land uncultivable. This creates an avenue for unmet need.

INVENTION DESCRIPTION/SOLUTION

UTA researchers have designed a film using a novel Nanophosphor that aim at enhancing the light delivered to the crops for improved productivity. The fabrication of the nanophosphor films is very simple and practically low cost. These Nanophosphor films aid in improving both the production and quality of the crops while reducing the risk of direct chemical application. The films also allow substitution of high cost rare earth minerals with low cost earth minerals. Use of the low cost earth minerals also aim at reducing the depletion of non-renewable resources.

APPLICATIONS

- Agriculture production
- Nano biotechnology R&D
- Farm Equipment

KEY BENEFITS

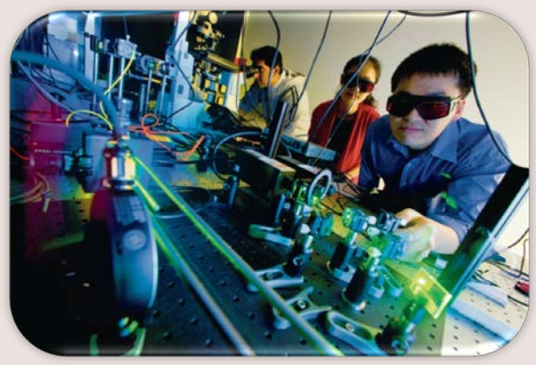
- High productivity
- Low cost
- Easy fabrication
- High light output
- Quality end product

STAGE OF DEVELOPMENT

Prototyped

INTELLECTUAL PROPERTY STATUS

Provisional



More about the Inventor:
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