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# AGRINOPRO

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## PROBLEM STATEMENT

One of the main disadvantages of using mulch film and polybag in agricultural industry is the disposal problem. Although biodegradable plastic films exist, non-biodegradable plastic films are much more commonly used as the price is cheaper. The agricultural mulch film and polybag must be removed and disposed of properly, consequently taking them to a processing or recycling plant that specializes in disposing of this specific type of polyethylene film. The mulch and polybag should last as long as the crop, if it breaks down too early then film sticks to the crop causing damage and fails to protect it from weeds. The biodegradable mulch is far more expensive and there are questions as to whether the material is totally broken down. Besides, the usage of metal oxides as pro-oxidant (such as cobalt stearate) has led to toxicity that can cause damage to major constituents of biological system.

## PRODUCT DESCRIPTION

- AgrinoPro is a product which is produced from recycled plastic with the addition of Cogongrass extraction. Most importantly, it can be fragmented and biodegraded once disposed to sunlight or landfilled.
- Similar as conventional mulch plastic film and polybag, AgrinoPro has the benefit in increasing yields, easy installation, earlier harvest, weed control and moisture retention. Studies indicates that the plastic can be broken down into CO<sub>2</sub>, H<sub>2</sub>O and biomass without toxic residues. The pickup and disposal cost can be saved.

## NOVELTIES

- The cogongrass was used as natural pro-oxidant in producing mulch film
- AGRINOPRO is oxo-biodegradable mulch film that can be degraded within 3 months
- Can be processed by using conventional equipment
- Non-toxic

## COMMERCIAL POTENTIAL

- Mulching film
- Polybag
- Packaging Film
- Shopping bag
- Biodegradable bottle

## PRODUCT

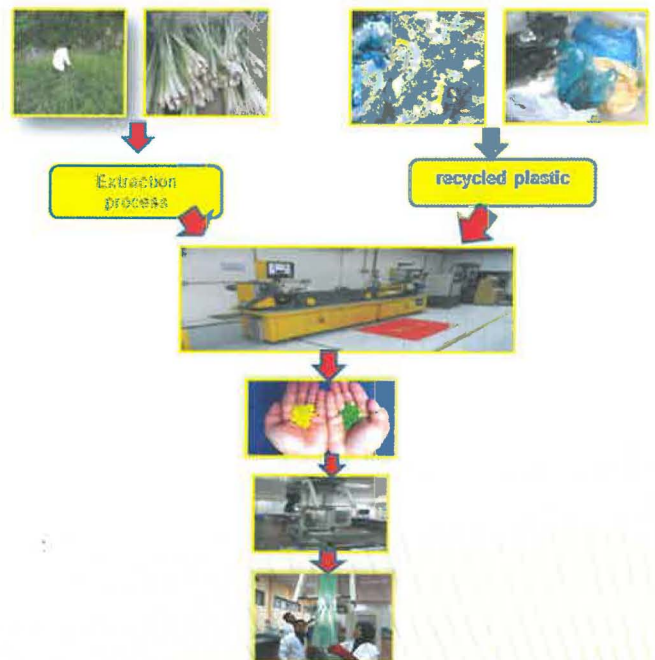


MULCH FILM



POLYBAG

## PROCESS FLOW



## INDUSTRIAL COLLABORATION

