# Thailand Current Status and Future Plan on Nuclear Science and Technology

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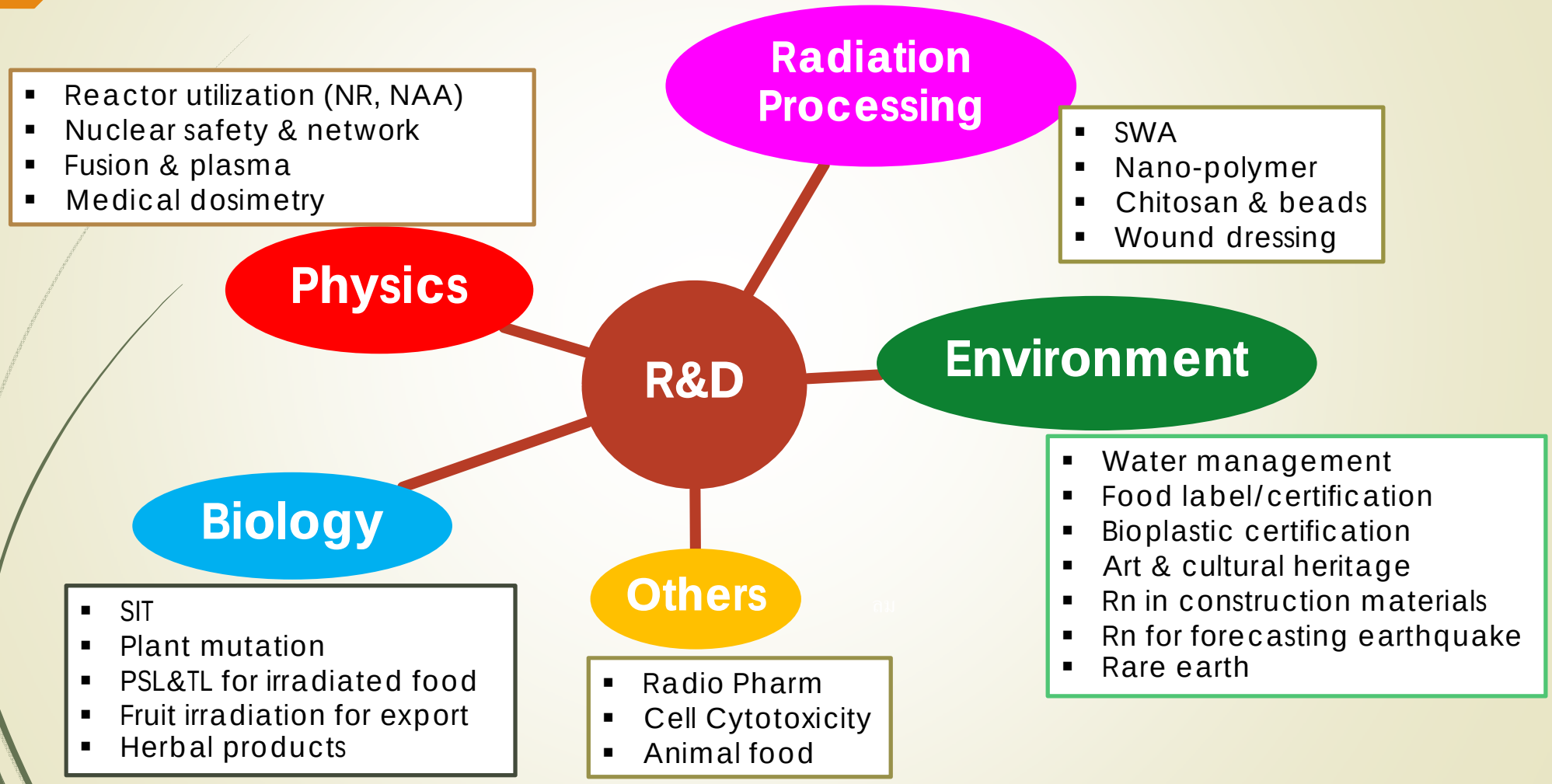
# CONTENT

- Current Status and Achievement
- Future Plan

# Research and Development on Application of Nuclear and Radiation Technology



## Plant Mutation Breeding

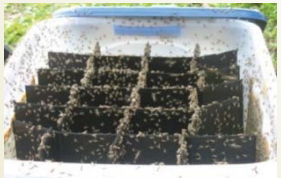
The registration for mutant variety of fragrant rice **'Hom Rangsi'** can flower in dry season by using fast neutron has been submitted.

## Radiation-induced Sterile Insect Technique (SIT)

- Area-wide control of oriental fruit fly using SIT
- Field operations with >80% oriental fruit fly population reduction
- **Fruit Fly Mass-rearing Facility** equipped with 14,000 Ci Co-60 irradiator and 4-pi X-irradiator can produce $1x10^8$ pupae/week.








## Irradiation of Herbs Investigation of the quality of irradiated herbs

- Gamma radiation and electron beam were investigated.
- Microbial contamination was successfully eliminated or control.
- Functional ingredients and antioxidant activities were characterized.




## Extraction of active components

- Gamma radiation was used to extract active components from koranda fruits.
- The extract provides active ingredients for cosmetic products.

## Production of Plant Growth Promoter from Chitosan

A pilot plant of PGP with the capacity of 100,000 liters /day was set up at Thai Irradiation Center, Prathumthanee Province.

## Production of Superwater absorbent (SWA) from Cassava Starch

The pilot plant of SWA with the capacity of 200 kg /day of dry SWA was set up at TINT, Prathumthanee Province.

# Future Plan and Contribution to Thailand and other countries



Knowledge with social and economic impact

Safe operation and standardization of industrial and medical practice

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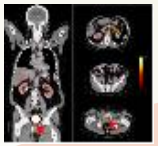
Medical standard of care improvement



2027

2022

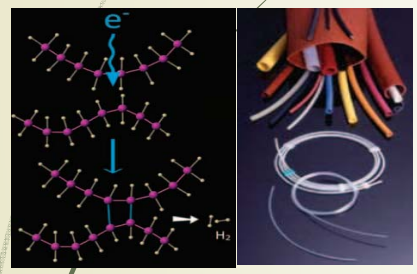
15-20 MW research reactor for isotope production, material analysis and research

30 MeV cyclotron for isotope production and research

2021

Neutron field for calibration service

Radiation processing technology services and transfer




2020

HT-6M tokamak project

2018

3 and 10 MeV E-beam, 5 MeV X-ray

Research, education and training

# Thank you