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# **Development Action Planning (DAP)**

## **34<sup>th</sup> International Vegetable Training Course “Vegetables: From Seed to Table and Beyond” Module 2**

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**AVRDC – The World Vegetable Center  
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# **IMPORTANT module 2**

## **Good topic**

- Week 3 Human Nutrition and Health
- Week 4 Vegetable Postharvest Technologies

## **New topic**

- Special measures to control the export of fruits and vegetables to Europe.
- New development of ASEAN Good Agricultural Practices for Fresh Fruit and Vegetables: ASEAN GAP





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# Perilla Production Technology and Processing Development for Good Quality

- The first activity , research and technology development and production of perilla oil seed roll before .
  - Varieties collection
  - Testing varieties in station
  - Offering a new variety to the cultivators
- Research activities at the second , processing and utilization of perilla oil seed .
  - The process of extracting oils from perilla seed the varieties.
  - Processing production perilla seed





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# Steps in action plan development





# Perilla seed oil

Name of Science : *Perilla frutescens* (Linn.)

Family name : Lamiaceae the same as those in the Basil  
Thyme

Other names: the beauty (even Hong Kong teaching );  
Vasai ( London) ; Sesame Jiang ( Laos )

# Introduction

- Perilla seed oil have a valuable nutrition as follows

**Micro nutrition: Protein and omega- 3 6 9**

**Minerals: Calcium, Iron, Magnesium, Manganese Etc.**

- Perilla seed oil have abundant antioxidants control cholesterol levels

- Perilla seed oil can be grown in various environment and can be adapted well .

- The villagers of northern most cooking Perilla seed or mixed with sticky rice to be eaten instead of in a mortar stone . The people is called some of the kanga nu nar/ Chew sesame rice





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## **Valuable supplements**

**Supplements, 500 mg / capsule contains .**

**Linoleic acid / omega- 3 (Linolenic Acid / Omega3) 312mg. 62.4%**

**Linoleic acid c / Omega 6 (Linoleic Acid / Omega6) 79mg. 15.84%**

**Oleic acid / Omega 9 (Oleic Acid / Omega9) 59mg. 11.14%**

**Protein (Protein) 1.5mg. 0.3%**

**Tocopherol (Vitamin E) 0.21mg. 0.7%**

**cold pressed oil, produce from natural products 100%**





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# Utilization of Perilla in Thailand





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# Perilla seed oil Products in Thailand





## Problems of production Perilla seed in Thailand

- Lack of good varieties for consumption and processing. that can be suitable for each area.
- Low yield due to was destroyed by pesticides.
- Resistance to pest diseases
- Poor quality such as Flavor, nutritional value
- Safety , toxicants contaminants



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# Objective

- To develop the new Perilla varieties which will be suitable for each areas.
- To improve the new varieties in order to high yield, good flavor good safe for consumption.





# The process of **Perilla** varieties breeding, Department of Agriculture's process consist

varieties collection

Hybridization and selection

Testing varieties in station

Compare preliminary varieties

Testing varieties in farmer fields

Offering a new variety to the  
cultivators



## Varieties collection

1. Survey Perilla varieties grown in different areas
2. The species planted in plots
3. Characterization recorded by International Plant Genetic Resources Institute (IPGRI).
4. Classified Characterization





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## Varieties collection

Nan Agricultural Research and Development Center has collected 10 Perilla species from both domestic and foreign country. Those Perilla were recorded characteristics follows





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## Hybridization and selection

1. Select varieties collected in order to convert a breeder.
2. Breeding
3. Grow F1 plant
4. Select good characteristics.





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# Hybridization and selection

## Selected criteria

1. Yield over 200 kg / ha.
2. Good quality for consumers.
3. good growth and good adaptation in environments.





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# Research processing and utilization of perilla oil seed

The process of extracting oils from perilla seed the varieties.  
Processing production perilla seed

## Quality of perilla

Physical characteristics

- taste texture

Chemical properties

- rancidity

Nutritional quality

- protein fat vitamins

Safety quality



# Output

- To get the new with high yield and good quality.
- To provide the new varieties to grower.
- Processing production perilla seed oil.

