PYRETHRUM AGRONOMIC PRACTICES

KALRO
Kenya Agricultural & Livestock Research Organization

NAVCDP
NATIONAL AGRICULTURAL VALUE CHAIN DEVELOPMENT PROJECT

Definition of value addition

Value addition is a change of a product from original physical state to an enhanced new form.

Importance of pyrethrum value addition

- Product diversification (more products to sell and use)
- Market diversification (new markets for harvested produce)
- Preservation (extension of shelf life)
- Reduces postharvest losses
- Reduces bulk (good for transportation and storage)
- Improves quality and user acceptability
- Offers employment opportunities

Requirements for value addition of pyrethrum

- Quality raw materials (quality pyrethrum)
- Technical skills
- Value addition infrastructure and equipment (refineries, laboratories, energy)
- Market for value added products
- Policy, regulation, legislation

Pyrethrum value added products and services

Burning pyrethrum flowers on jikos to produce repellant smoke

Burning pyrethrum flowers on a jiko produces smoke that effectively repels mosquitoes and other insects, thereby addressing the challenge of limited pyrethrum utilization at the household level.

Pyrethrum broom

Pyrethrum is used as a broom to sweep homes, and the pyrethrin in the plant helps control ants, mosquitoes, fleas, flies, moths, and many other pests

Technical product

This liquid product is extracted from dry pyrethrin flowers. The dried flowers are ground, and solvents are added to extract crude extract, which is then refined to produce the technical product. This serves as the fundamental material used to formulate value-added products. The residue, a solid by-product, is utilized to process PYMARC, which functions as an animal feed supplement and crop protection product (described later).

Mosquito control products

- Contains Pyrethrins 0.5% w/w
- Flower mosquito killer pyrethrum sticks kill and repel mosquitoes once burnt. Light the coated end of the stick and allow it to smolder. The pyrethrum

smoke effectively kills and repels mosquitoes.

- Contains Pyrethrins 0.3% w/w
- MOSKILL MOQUITO COIL is used to control mosquitoes in domestic environs, by mode of contact.

Mosquito killer sticks

- The pyrethrins attack the insect's nervous system thus generating instant muscular paralysis (Knock down)
- It can be used as a conventional product for the control of flying or crawling insects but more importantly also as a total release aerosol.
- One canister can cover 300sq. metres in about 3 minutes. 30 second burst will cover 50sq. metres
- Dosage: 1 MOSKILL aerosol covers 300 m2

- Contains Pyrethrins 0.5% w/w
- A yellow emulsifiable concentrate
- Sold in 500 mls, 1 litre, and 5 litre containers
- A contact larvicide consisting natural pyrethrins, synergists and emulsifiers
- Controls Larvae, and immature stages of mosquitos
- Dilute 10ml of Pylarvex 0.5 in 20 litres of water
- Apply early and late in the day

Mosquito coils

Pylarvex

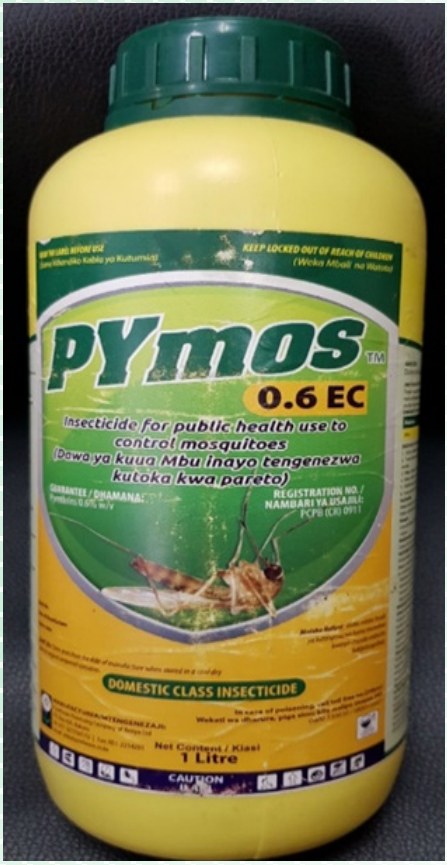
- Contains Pyrethrins 0.6% w/w
- Emulsifiable Concentrate
- Sold in 500mls, 1 litre, and 5 litre containers
- Effective against mosquitos, Gnats, sand flies, and other dipthera
- Mix 10 litres of Pymos 0.6 EC in 20 litres of water
- Use a knapsack or other ground applicators and spry in the house and compound at the rate of 5-6 litres per 40 cubic metres

PARESOL

Paresol is a natural pyrethrum aerosol for mosquito control. It is a natural Pyrethrum based insecticide specially designed to deliver fast knockdown and kill of mosquitoes. It is ideal for indoor and outdoor spraying.

Crop protection products (sprays)

These are prepared from the extracted pyrethrin technical product to produce a broad spectrum pesticides used to control pests on



Pymos

flowers, fruits and vegetables in the garden and greenhouses. They are commercially available under different commercial names.

PYRAGRO

This is a safe, effective and fast acting insecticide / miticide for the control of biting and sucking crops pests.

- Contains Pyrethrins 4% w/w
- emulsifiable concentrate
- Sold in 500mls, 1 litre, and 5 litre containers
- A contact pesticide/miticide with strong repellency, rapid knockdown and paralysis
- Controls aphids, mites, whiteflies, thrips and diamond back moth
- Mix 2.5- 5 litres of Pyagro 0.4 EC in 1000 litres of water for 1 hectare
- Spray at an interval of 7 days once insects are noticed

PYRAGRO

Livestock sprays and acaricides

These are used to control parasites in livestock. Examples of livestock sprays / acaricides include pyrethrum grease and pytix 4 EC. They are used to control ticks and flies.

- Contains Pyrethrins 1.5% w/w
- A dark brown gel containing plant waxes and green oils
- Packed in 250 and 500gms plastic containers
- Is a contact acaricide/ insecticide
- Controls ticks and flies
- Apply 50gms of pygrease1.5 by hand or suitable brush on tick predilection sites: Inside ears, base of horns, anal region, udder, back of heels, around eyes and tail brush

Storage dusts food stores and warehouses

- Contains Pyrethrins 1% w/w
- A yellow/brown powder
- Packed in 100 and 200 gm plastic containers
- A contact, broad spectrum

Pygrease

insecticide for storage pests

- Controls weevils, grain borers etc.
- Mix 100gms of pydust with 90 kgs of the grain and mix thoroughly.
- Repeat again after 6 months

By-product of pyrethrin extraction - PYMARC

PYMARC is a by-product in pyrethrum processing – it is solid residue left after extraction of pyrethrin from ground flowers. Virtually all pyrethrins are removed in the process. It is used as a feed supplement and reduces intestinal parasites and improves general animal appearance. PYMARC is ideal feed supplement for dairy cattle, sheep, goats and horses.

- Contains Pyrethrins % w/w
- It is a vegetable matter left after extraction of pyrethrins from ground flowers. All pyrethrins are removed at this stage
- A feed supplement that reduces intestinal parasites and improves general animal appearance
- Small quantities of Pymarc can be mixed with other familiar feed such as molasses,

PyDust

PYMARC

salt, bran and hay

- Also effective against cereal stalk borer, when applied in the leaf whorls of maize and sorghum plants at knee height using finger thumbs
- It can also be applied in the soil to act against nematodes

PYMARC may initially seem unpalatable to animals; it is recommended that small quantities of PYMARC be mixed with other animal feed such as molasses, salt, bran, hay, etc. The ration of PYMARC in the mixture can be increased gradually to an optimum of 4kg per day as follows:

PYMARC	4 kg
Molasses	0.5 kg
Mineral salts	100g
Grass (Hay/silage)	20kgs

PYMARC is also used as fertilizer and for crop protection.

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