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Fermented Butter Milk Karaisal Solution (Theamor Karaisal)

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Butter Milk Karaisal is a traditional organic agricultural input prepared from fermented buttermilk and widely used in natural and organic farming systems. It plays an important role in the management of insect pests and plant diseases and also improves crop health. The formulation contains beneficial microorganisms and organic acids that suppress harmful pathogens and reduce pest incidence. Butter Milk Karaisal is eco-friendly, cost-effective, and easy to prepare using locally available materials. This article discusses the importance, preparation method, mode of action, uses, advantages, precautions, and role of Butter Milk Karaisal in sustainable agriculture

Introduction

Indian agriculture has a long history of using indigenous technical knowledge for crop protection and soil health management. Before the introduction of chemical pesticides, farmers depended on natural formulations prepared from plant and animal sources. With the increasing use of chemicals, problems such as pest resistance, environmental pollution, and health hazards have become common. Butter Milk Karaisal is one such traditional organic formulation prepared from fermented buttermilk. It is mainly used as a foliar spray to manage pests and diseases and to improve plant health. Due to its simplicity, safety, and effectiveness, it is gaining importance in organic and sustainable farming.



Importance of Butter Milk Karaisal

Butter Milk Karaisal is important because it provides a natural alternative to chemical pesticides. It helps maintain ecological balance by protecting beneficial insects and microorganisms. This formulation is highly suitable for small and marginal farmers as it is low-cost and easy to prepare at the farm level. Regular application improves plant resistance to pests and diseases and enhances overall crop growth. It also reduces the cost of cultivation and supports environmentally safe agriculture.

Materials Required

- Fresh buttermilk
- Clean plastic or earthen container
- Water
- Optional additives:
 - Neem leaf extract
 - Turmeric powder
 - Cow urine

Preparation Method

Fresh buttermilk is collected in a clean container and kept under shade for fermentation. The buttermilk is allowed to ferment naturally for 3–5 days. During fermentation, beneficial microorganisms multiply and organic acids are produced. After fermentation, the solution is diluted with water. Usually, 1 litre of fermented buttermilk is mixed with 10 litres of water and used as a foliar spray. Neem extract or turmeric powder may be added to improve effectiveness.

Composition and Properties

- Butter Milk Karaisal mainly contains:
- Lactic acid bacteria
- Beneficial microorganisms
- Organic acids
- Natural enzymes

These components help suppress harmful pathogens and create an unfavorable environment for insect pests.

Mode of Action

- ✓ Butter Milk Karaisal works through the following mechanisms:
- ✓ Microbial Competition – Beneficial microbes suppress disease-causing organisms.
- ✓ Acidic Nature – Reduces insect feeding and egg laying.
- ✓ Disease Suppression – Organic acids inhibit fungal growth.
- ✓ Plant Immunity Enhancement – Improves resistance to biotic stress.

Uses and Target Problems

- Insect Pests
- Aphids
- Thrips
- Whiteflies
- Mites
- Diseases
- Leaf spot
- Powdery mildew
- Downy mildew
- Minor fungal diseases

Crops Suitable

Butter Milk Karaisal can be applied to:

- Paddy
- Vegetables
- Pulses
- Millets
- Oilseeds
- Fruit and plantation crops

Advantages

- Eco-friendly and biodegradable
- Low cost and easy to prepare
- Safe to humans, animals, and beneficial insects
- No harmful chemical residues
- Improves crop health and yield indirectly
- Reduces dependence on chemical pesticides
- Suitable for organic farming

Role in Sustainable Agriculture

Butter Milk Karaisal plays a significant role in sustainable agriculture by reducing chemical input usage and conserving soil and environmental health. It supports biodiversity and promotes natural pest management practices. Continuous use improves crop resilience and long-term farm sustainability.

Precautions and Limitations

- Use only well-fermented buttermilk
- Avoid over-concentration
- Do not spray during flowering stage
- Spray during early morning or evening
- Not effective alone against severe pest infestation

Integration with Other Organic Inputs:

Butter Milk Karaisal can be integrated with:

- Neem extract
- Panchagavya
- Jeevamrutham
- Herbal plant extracts

This improves pest and disease control efficiency.

Conclusion

Butter Milk Karaisal is an effective traditional organic formulation that supports eco-friendly pest and disease management. It is simple, economical, and environmentally safe. Proper and regular use helps improve plant health, reduce chemical dependency, and promote sustainable agriculture.

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