

## Calcium Arkh: An Ancient Wisdom for Modern Agriculture

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### Summary

Indigenous Technical Knowledge refers to the traditional knowledge and practices developed by indigenous communities over the generations. ITK is often bound with the environment and is passed down through oral traditions. Calcium Arkh is a unique blend of traditional practices and modern scientific validation, particularly useful in agriculture. When it comes to maximizing crop yields and ensuring healthy plant growth, calcium Arkh is a game changer. Calcium has a wide range of uses in plants which include the formation of strong and rigid cell walls, the regulation of plant growth and development process, the function of plant membranes and the activity of many enzymes. This article delves into the traditional and scientific methods of preparation and highlights the benefits of Calcium Arkh.

### Introduction

Indigenous Technical Knowledge (ITK) is a comprehensive term that refers to the traditional skills, methods, and practices developed and applied by local communities over time. These are often the result of generations of experience and are adapted to the specific conditions of local environments. ITK is not merely a set of empirical practices but is often embedded in cultural traditions, social systems, and the local knowledge base. It serves multiple functions, from environmental management to agricultural productivity and healthcare.

In the context of Calcium Arkh, ITK plays a pivotal role in understanding the localized needs and environmental conditions that this solution addresses. The use of milk and turmeric clots in the preparation of Calcium Arkh is a testament to the intricate understanding that local communities have of the natural resources available to them. This form of knowledge is invaluable for sustainable development, as it is inherently adapted to local ecological

conditions and can be highly effective in addressing specific challenges. Recent scientific investigations into Calcium Arkh have only served to validate the wisdom encapsulated in ITK, offering a harmonious blend of traditional wisdom and modern scientific validation.

Calcium Arkh which provides calcium to plants is essential for their growth and development. Calcium helps in promoting root growth and improves nutrition uptake. It also helps by preventing disease and disorders in plants.



Fig:1.1 Earthen pot

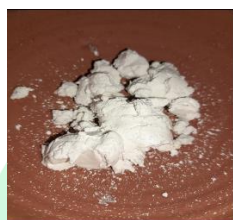


Fig:1.2 Calcium (lime)



Fig:1.3 Milk



Fig: 1.4 Day 1-3



Fig: 1.5 Dried turmeric clots



Fig:1.5 Calcium arkh

### Materials And Method

In the traditional approach to creating Calcium Arkh, a carefully selected range of materials is required. These materials include lime or limestone, which serves as the primary source of calcium. Notably, limestone is the preferred choice as it is more economically accessible for farmers. Additionally, a kiln is needed for the calcination process (heating a substance at a high temperature in the absence of oxygen to convert that substance into a more stable form) that transforms the lime into calcium oxide. Water is another essential component, used for hydrating the calcium oxide to produce calcium hydroxide (lime water). Calcium oxide is converted to calcium hydroxide because it helps in providing calcium to the plants, which is important for plant growth. The process is further enriched by the inclusion of milk and turmeric clots, which act as solvents in the mixture. These materials collectively contribute to the effective preparation of Calcium Arkh, embodying the principles of Indigenous Technical Knowledge. In the traditional approach to preparing Calcium Arkh, lime is initially calcined in a kiln. This process continues until the lime decomposes into calcium oxide.



Subsequently, the calcium oxide is hydrated with water to produce calcium hydroxide. To complete the process, milk and turmeric clots are introduced as solvents to the calcium hydroxide mixture. The substance is then left undisturbed to allow settling, after which the clear liquid obtained is referred to as Calcium Arkh.

### **Things to Know About Calcium Arkh**

In terms of soil treatment, it has been found that Calcium Arkh is highly effective when prepared with milk and turmeric clots for treating acidic soils. An organic role as a pest repellent is also served by it. In the realm of safety and economy, its nontoxic nature has been noted. Adaptation to local environmental conditions is another characteristic that is offered by it. Plants like tomatoes, eggplants, and peppers will benefit from applying calcium. Calcium Arkh also prevents blossom end rot. Too much application of calcium Arkh can cause Calcium toxicity which inhibits seed germination and growth of the plants. Application of calcium Arkh can be done to the soil by diluting 20ml of extract per 1 litre of water. The advantages of calcium arkh are:

- Helps in disease resistance and increasing cell wall strength.
- -Preventing calcium deficiency and boosting crop quality and yield.
- -Enhancing soil structure and reducing soil compaction.

### **Conclusion**

Calcium Arkh stands as a bridge between traditional wisdom and modern scientific validation. The use of milk and turmeric clots in its preparation enriches its properties and enhances its effectiveness in agriculture. This dual validation emphasizes the importance of Indigenous Technical Knowledge in contemporary settings.

### **References**

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