



# KHAN GLOBAL STUDIES

The Most Trusted Learning Platform

**LIVE CLASSES**



**BY - AVINASH ROY SIR**

ग्लोबल स्टडीज अम्ल (Nitric Acid) ( $HNO_3$ )

→ अम्ल रत्न (Aqua Regia)

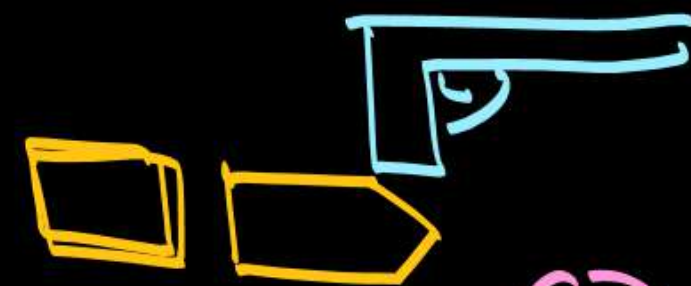
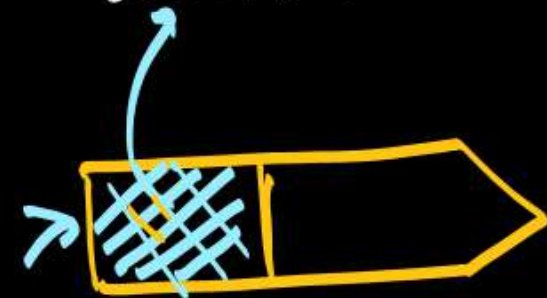


→ विस्फोटक (explosive)

- TNT
- TNP
- TNB

→ गैर-दवा  
Medicine

\* Gun Powder



- $KNO_3$   
+ S  
+ Wood Charcoal

③ Sulphuric Acid (सल्फ्यूरिक) )



↳ King of Chemical/Acid



↳ Petroleum product निष्कर्षण निष्कर्षण (extraction)

④ २ शीतल अम्ल  
(Acetic Acid) → (CH<sub>3</sub>COOH)



Pickles (अचार)  
Sour (सुर)  
Vinegar (शिरा)



→ मिथेनॉइक / Methanoic Acid / Formic Acid.



↳ Ant Bite



# ANT VENOM AND PHEROMONES

Ant bites and stings can cause intense pain. Here, we highlight some of the chemical components in ant venom that are responsible and zero in on molecular signals the insects use to communicate.

## ANT VENOM

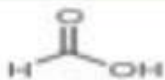


**71%**  
OF ANTS ARE  
STINGING SPECIES

DRY VENOM  
PRODUCED  
**10-300 µg**

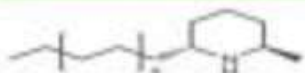


### FORMIC ACID



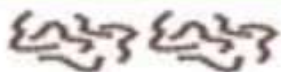
Formic acid is the main component of many ant venoms, present at concentrations of up to 70% by volume.

### ALKALOIDS



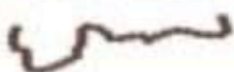
Some ant species, including fire ants, have alkaloids in their venoms. These compounds can have toxic effects.

### PEPTIDES



Cytolytic peptides penetrate and destroy cells. Neurotoxic peptides, less common in ant venom, target ion channels.

### PROTEINS



Proteins can act as neurotoxins. They can also cause inflammation, act as allergens, and promote venom diffusion.

## PAIN AND ITS APPROXIMATE DURATION

INCREASING PAIN →

**SOUTHERN  
FIRE ANT**  
5 min

**ARMY  
ANT**  
5 min

**RED IMPORTED  
FIRE ANT**  
5 min

**BULLET  
ANT**  
300 min

Source: Schmidt Sting Pain Index



Credit: Shutterstock

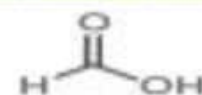
## ANT PHEROMONES

Ants secrete pheromones. These are chemicals used to communicate with other ants for a variety of purposes, including to warn them and to signal food.



### ALARM

### FORMIC ACID



Secreted to warn other ants of dangers such as predators



### TRAILS

### PYRAZINES

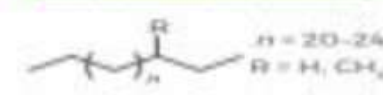


Used as a scent trail to guide other ants to food sources



### REPRODUCTION

### HYDROCARBONS

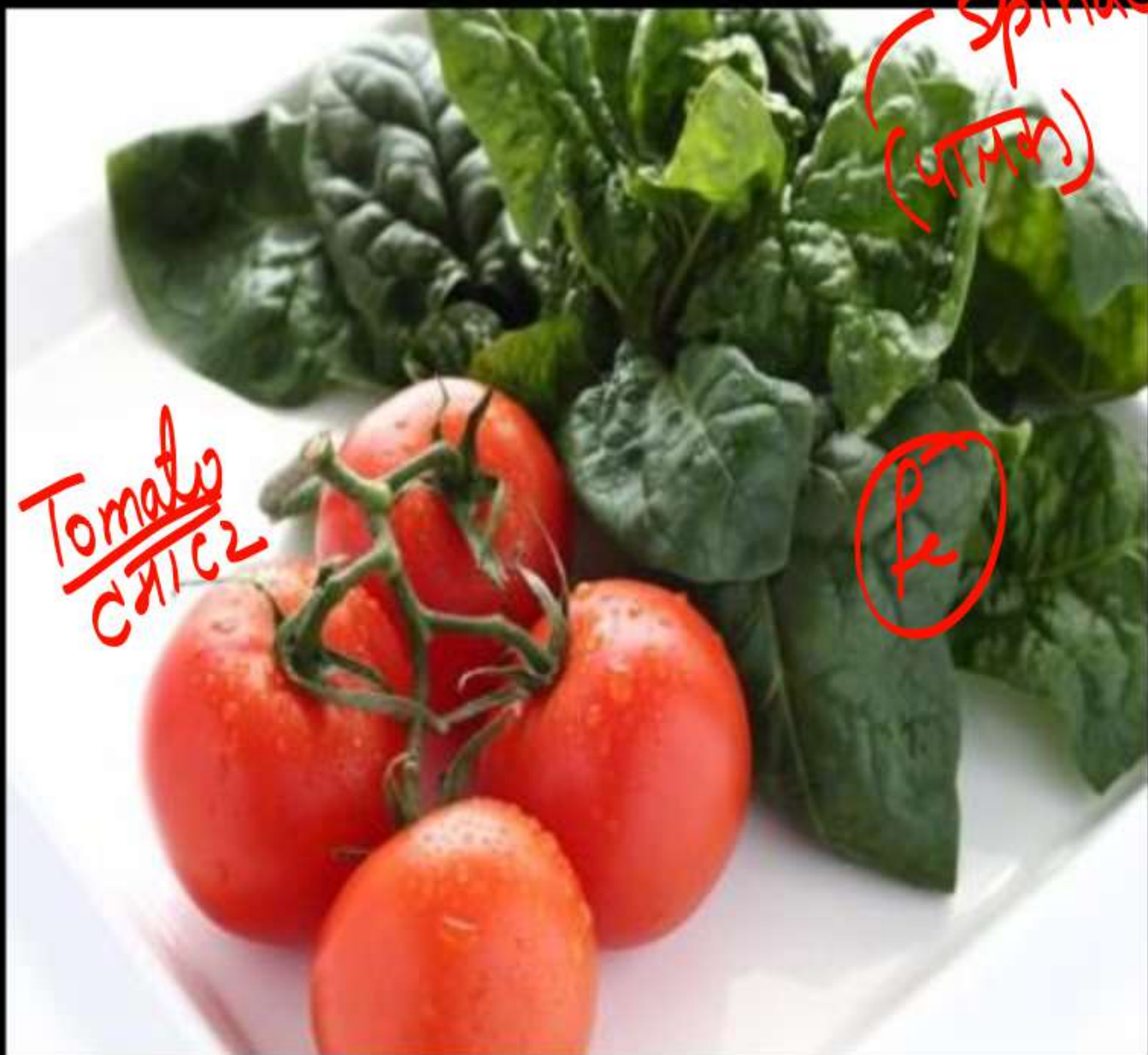


Secreted by queens to stop the reproduction of workers

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Oxalic Acid / ऑक्सालिक /  $\text{HOOC} - \text{HOOC}$  /  $\text{H}_2\text{C}_2\text{O}_4$





Ascorbic Acid / एस्कॉर्बिक



Citric Acid

Lemon, Amla, Orange etc.

Immunity Boost

WBC Boost

Excess -  
Blood Cancer

Leukemia

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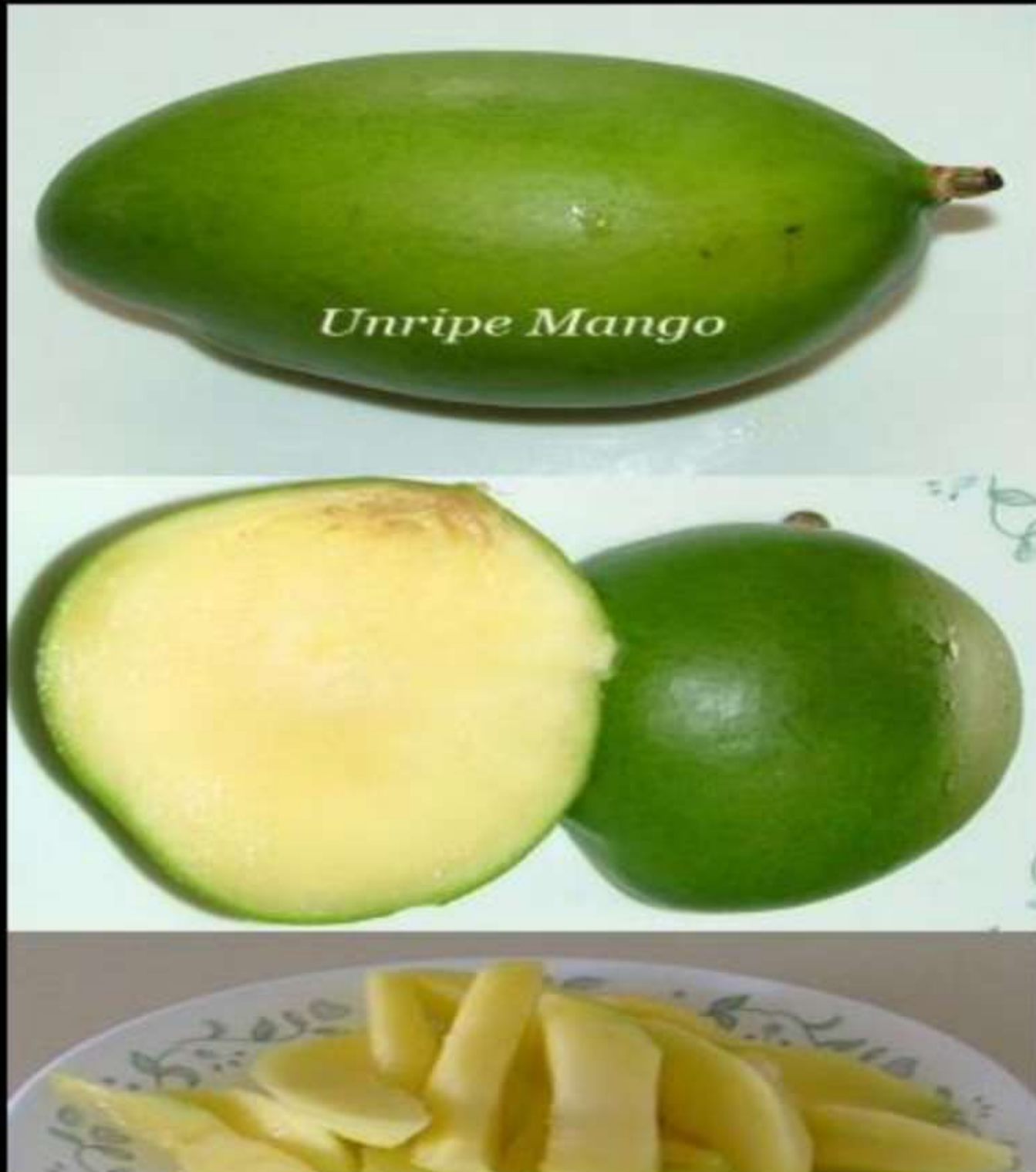
द्विचरित अम्ल - Tartaric Acid  $\rightarrow$   $(C_4H_6O_6)$



Imli / Tamarind

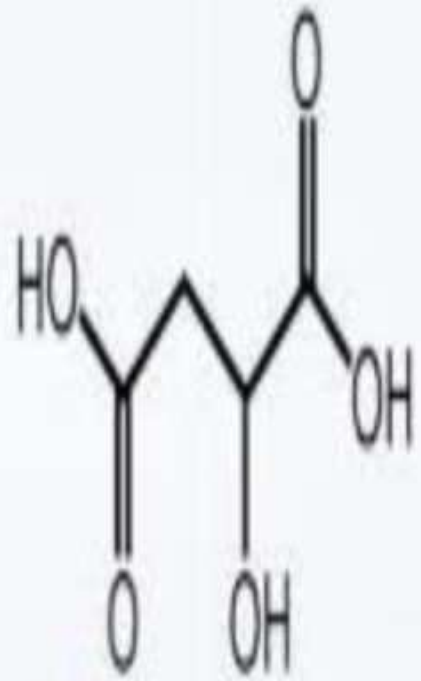


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Unripe Mango

अमृत यथा  
1  
for tonic food



malic Acid / मलिक अम्ल



→ आम (Apple)  
↳ Pineapple (अनामस)  
↳ Papaya (पपया)

Lactic Acid / लैक्टिक अम्ल



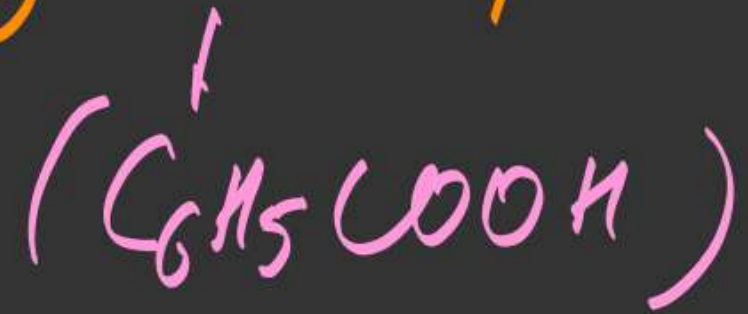
L फल (acid)

L Milk

"Lactobacillus Bacteria"

→ Curd

Benzoic Acid / बेन्जोइक अम्ल /



↳ Grass, Leaves

Glutamic Acid / ग्लूटामिक एसिड



L Wheat (गेहूँ)