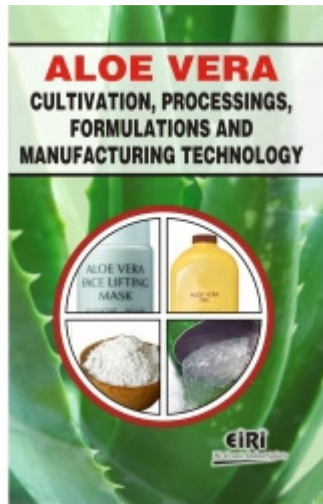


ALOE VERA CULTIVATION, PROCESSINGS, FORMULATIONS AND MANUFACTURING TECHNOLOGY



[Click to enlarge](#)

Numerous aloe species around the world are used for conditions ranging from dermatitis to cancer. Aloe gel's greatest use is as a skin salve and vulnerary for minor burns, abrasions, canker sores and other epithelial injuries. There is growing experimental evidence for its use as an antiviral, an ulcer remedy and an adjuvant cancer treatment due to its immune modulating effects. Aloe latex is a potent laxative that can cause severe cramping and diarrhea; it should not be used during pregnancy, lactation or by children less than 12 years old. Allergic reactions to aloe have been reported. Long-term use of anthraquinone laxatives may result in laxative dependence, pseudomelanosis coli, dehydration, potassium depletion, weakness, and arrhythmias. Aloe should not be used as a laxative by persons with undiagnosed abdominal pain, appendicitis, or intestinal obstruction.

Ancient Egyptian papyrus and Mesopotamian clay tablets describe aloe as useful in curing infections, treating skin problems and as a laxative. Cleopatra was said to include aloe cream in her beauty regimen. Aloe was used by Hippocrates and Arab physicians, and was carried to the Western Hemisphere by Spanish explorers. Legend has it that Alexander the Great captured the island of Socotra in the Indian Ocean to secure its aloe supplies to treat his wounded soldiers.

Aloe is also popular in both traditional Chinese and Ayurvedic medicine. The Chinese describe aloe's skin and the inner lining of its leaves as a cold, bitter remedy which is downward draining and used to clear constipation due to accumulation of heat

(fire); the gel is considered cool and moist. In Ayurvedic medicine, the traditional medicine of India, aloe is used internally as a laxative, anti-helminthic, hemorrhoid remedy, and uterine stimulant (menstrual regulator); it is used topically, often in combination with licorice root, to treat eczema or psoriasis. In Arabian medicine, the fresh gel is rubbed on the forehead as a headache remedy or rubbed on the body to cool it in case of fever, as well as being used for wound healing, conjunctivitis, and as a disinfectant and laxative.

Today aloe vera gel is an active ingredient in hundreds of skin lotions, sun blocks and cosmetics. The gel's use in cosmetics has been boosted by claims that it has similar anti-aging effects to vitamin A derivatives. Aloe first gained popularity in the United States in the 1930s with reports of its success in treating X-ray burns. Recently, aloe extracts have been used to treat canker sores, stomach ulcers and even AIDS. Some natural health enthusiasts promote aloe gel as a cleansing juice. Some naturopaths promote aloe juice as a way to prevent and treat renal stones. Many mothers keep a plant handy in the kitchen where it readily thrives in bright sunlight with little care. When faced with a minor burn, a fresh leaf can be cut and the gel of the inner leaf applied directly to the burn immediately after the injury. The inner leaf lining of the plant is used as a potent natural laxative. In a 1990 survey of members of a health maintenance organization, aloe vera was used by 64%; of these, 91% believed it had been helpful. Aloe is also an ingredient in Compound Benzoin tincture.

1. Introduction

2. Cultivation

- Climate
- Soil
- Land preparation
- Planting Time
- Varieties/Genotype
- Propagation
- Planting Material
- Spacing and Planting
- Manuring
- Irrigation
- Interculture
- Intercropping
- Insect Pests and Diseases
- Harvesting
- Yield
- Post-Harvest Management
- Marketing
- Processing
- Chemical Composition
- Unit Cost

3. Aloe vera Leaf Processor

4. Aloe vera Gel Extracting Apparatus

5. Aloe vera Plant Gel Separator

- DESCRIPTIONS

6. Aloeferon, Manufacturing and its Application

- Objects of the Method
- Descriptions

7. Stabilized Aloe Vera Gel

- Descriptions

8. Hypoallergenic Stabilized

- Descriptions
- Example

9. Aloe vera Gel Toothpaste

10. Protective Hand Lotion of Aloe vera Gel and Vitamin E Gel

11. Cosmetic Facial Preparation Containing Aloe vera

12. Cosmic Lotion

13. Cosmetic Composition

14. Conditioner that provides Skin like an Angel

15. Hair Cleanser

16. Hair Products

17. Dyeing Composition of Hair

18. Therapeutic Shampoo Composition

19. Whitening Compound

- Methods
- The Drawings
- Descriptions

20. Organic Toothpaste

21. Shaving Composition

22. Detergent Compositions

- Detergent Powder from Aloe vera
- Descriptions
- Examples

23. Disinfectant Cleaning Composition

24. Slimming Soap

25. Cleansing Composition with Orange Oil

26. Aloe vera Ointment

27. Therapeutic Composition for Treatment of Mucositis and Mucosal Disorder

- Descriptions
- Treatment options and published studies
- Formulation 1: Gelatin Capsules
- Formulation 2: Tablets
- Formulation 3: Sugar-Free Chewable Wafer Tablets
- Formulation 4: Suspensions
- Formulation 5: Nasal Solution
- Formulation 6: Mouth Wash
- Formulation 7: Augmented Therapeutic Composition Tablets
- Formulation 8: Augmented Therapeutic Composition Tablets with Cooling Effect
- Assay

28. Herbal Composition for Treating Muscle

- Aches and Joint Pain
- An example of a poultice formulation
- An example of a liquid herbal soak formulation

29. Immunomodulatory Polysaccharides from Aloe

- Example 1: Isolation and Purification of Immuno-10
- Limited Enzyme Digestion
- Enzyme Deactivation
- Decolorization and Filtration

30. Softening Composition

31. Antimicrobial Agents Isolated from Aloe vera

- Aloe Plant Antimicrobial Agents
- Source of the Aloe Bacteriocidal Activity
- Aloe Bacteriocidal Activity is not from Previously Identified Components
- Isolation of Novel Aloe Constituents as Antimicrobial Products
- Chromatographic Separation
- Aloe Plant Defense Proteins Capable of Antimicrobial Activity
- Materials and Methods
- Plants
- Microbial Isolation
- Morphological and Biochemical Characterization
- Isolation of DNA
- DNA Fingerprinting
- Morphological and Biochemical Characterization
- DNA Fingerprinting Analysis
- Population Dynamics Among Indigenous Microflora Isolated from Aloe vera
- Microbial Isolation
- Population Enumeration
- Spot Plates
- Tissue Printing
- Antibody Preparation
- Immunoblotting

32. Antioxidant Compositions for the Eye

33. Burn Treatment

34. Decongestant Composition Containing Aloe vera

35. Extracts of Aloe for Oral Administration

- Aloe
- Plant Preparations, Purification and Extracts
- Ginkgo biloba
- Camellia sinensis
- Oleacea europensis
- Trifolium pratense
- Litchi sinensis
- Vitis vinifera
- Brassica oleracea
- Punica granatum
- Petroselinium crispum
- Passiflora incarnata
- Medicago sativa
- Valeriana officinalis
- Castanea sativa
- Harpagophytum procumbens
- Hoodia gordonii
- Melissa officinalis
- Panax ginseng C.A.
- Cyclopia sp L.
- Aspalathus linearis L
- Paullinia cupana
- Opuntia ficus-indica
- Caralluma fimbriata
- Physiologically Active Agents
- Chitosans
- Physiologically Active Fatty Acids, their Salts and their Esters
- Sterols and Sterol Esters
- Industrial Application
- Examples
- Influence of Extracts on Feeding Behavior and
- Responses of an Insect, Spodoptera littoralis,
- to Glucose
- Responses to Sugars
- Comparison Examples C1-C8
- Responses to Extracts in Combination with Either Sucrose or Glucose
- Comparison Examples C9-C12
- Response of Cannulated Insects to Glucose
- Comparison Examples C13-C16
- Electrophysiology: Neural Response to Glucose
- Conclusion

36. Herbal Formulation

- Method of Extraction
- Preliminary Clinical Data
- Case 1
- Case 2

37. Nasal Spray

38. Non-irritating Antiperspirant

39. Non-Toxic Mucosal Disinfectant

40. Aloe vera Ophthalmic Solution

- Preparation of the Aloe Vera gel eye drops

41. Aloe Pectins and its Pharmaceutical Composition

- Descriptions
- Materials and Methods
- Light and Electron Microscopy of Leaf Sections
- Light Microscopy of Cell Wall Fibers
- Extraction of Aloe Pectins
- Pectin Purification by Ion Exchange Chromatography
- Uronic Acid Assay
- Sugar Composition and Linkage Analysis
- Acidic Polysaccharide Gel Electrophoresis
- Enzyme Digestion of Aloe Pectin
- Acetylation, Methylation, and Total Phenol
- Acetylation and Methylation
- Determination of Total Phenol
- Methylation, Acetylation, and Total Phenol
- Molecular Weight Determination By Size Exclusion
- Chromatography (SEC)
- Viscosity
- Calcium Gel Formation
- Monovalent Cation-Based Gel Formation
- Use of Aloe Pectin as An Encapsulating Agent for Controlled Release
- Use of Monovalent Cation-Based Aloe Pectin
- Gel as A New Matrix for Antigen and Antibody
- Precipitation Reaction
- Extraction by Supercritical Fluid

- Extraction of Aloe Pectins with Enzymes
- Extraction of Aloe Pectins with Microbes
- Use of Monovalent Cation-Based Gel as a Storage Matrix for Pharmacological Agent
- Physical and Chemical Characterization of Aloe Pectins
- Features Overview

42. Scar Reducing and Massage Emollients

43. Skin Therapeutic Mixture

44. Topical Analgesic Formulation

45. Topical Composition for Relief of Pain and

- Minor Skin Irritations

46. Transdermal Formulation

47. Herbal Formulation Useful for Treatment of Skin Disorders

- Formulations for alleviating muscular pain
- Advantages

48. Neutraceutical Treatments for Diabetic and Non-Diabetic Wound Healing

49. Therapeutic Composition for Treatment of Arthritis and other Afflictions

50. Therapeutic Cream

51. Wound Healing

52. Clear Juice from the Leaves of the Aloe vera Plant

53. Drink Containing Mucilaginous Polysaccharides

54. Healthy Baby Beverage

- Summary, ramifications, and scope
- Additional ramifications

55. Nutritional Composition

56. Aloe vera Glove

57. Aloe vera Processed Leather and Leather Gloves, Garments, Shoes and Sandals

58. Gloves Containing Dry Aloe Powdered

59. Treating Textiles and Articles of Clothing

60. Additives for Sanitary Napkins

61. Insect Repellent

62. Uses of Denture Adhesive Containing Aloe Extract

63. Adhesive Agent and its Use

64. Scale Inhibitor from Aloe

- EXAMPLE 1: Preparation of Bio-Inh1
- EXAMPLE 2: Preparation of Bio-Inh2

65. Coating Containing Denatured Aloe vera

- Comparative Example 2
- Polyvinylpyrrolidone (PVP)
- Paraffins

This volume contains 65 chapters on Aloe vera, i.e., Introduction, Cultivation, Aloe vera Leaf Processor, Aloe vera Gel Extracting Apparatus, Aloe vera Plant Gel Separator, Aloeferon, Manufacturing and its Application, Stabilized Aloe vera Gel, Hypoallergenic Stabilized Aloe vera Gel, Aloe vera Gel Toothpaste, Protective Hand Lotion of Aloe vera Gel and Vitamin E Gel, Cosmetic Facial Preparation Containing Aloe vera, Cosmic Lotion, Cosmetic Composition, Conditioner that provides Skin like an Angel, Hair Cleanser, Hair Product, Dyeing Composition of Hair, Therapeutic Shampoo Composition, Whitening Compound, Organic Toothpaste, Shaving Composition, Detergent Compositions, Disinfectant Cleaning Composition, Slimming Soap, Cleansing Composition with Orange Oil, Aloe vera Ointment, Treatment of Herps, Therapeutic Composition for Treatment of Mucositis and Mucosal Disorder, Cooling Towel, Topical Dermal Anaesthetic, Herbal Composition for Treating Muscle Aches and Joint Pain, Immunomodulatory Polysaccharides from Aloe, Softening Composition, Antimicrobial Agents Isolated from Aloe vera, Antioxidant Compositions for the Eye, Burn Treatment, Detergent Composition Containing Aloe vera, Extracts of Aloe for Oral Administration, Herbal Formulation, Nasal Spray, Non-irritating Antiperspirant, Non-toxic Mucosal Disinfectant, Aloe vera Ophthalmic Solution, Aloe Pectins and its Pharmaceutical Composition, Scar Reducing and Massage Emollients, Skin Therapeutic Mixture, Topical Analgesic Formulation, Topical Composition for Relief of Pain and Minor Skin Irritations, Transdermal Formulation, Herbal Formulation Useful for Treatment of Skin Disorders, Neutraceutical Treatments for Diabetic and Non-diabetic Wound Healing, Therapeutic Composition for Treatment of Arthritis and other Afflictions, Therapeutic Cream, Wound Healing, Clear Juice from the Leaves of the Aloe vera Plant, Drink Containing Mucilaginous Polysaccharides, Healthy Baby Beverage, Nutritional Composition, Aloe vera Glove, Aloe vera Processed Leather and Leather Gloves, Garments, Shoes and Sandals, Gloves Containing Dry Aloe Powdered, Treating Textiles and Articles of Clothing, Additives for Sanitary Napkins, Insect Repellent, Uses of Denture Adhesive Containing Aloe Extract, Adhesive Agent and its Use, Scale Inhibitor from Aloe, Coating Containing Denatured Aloe vera.