Products of BCSIR Laboratories, Rajshahi

Dewaxed Shellac Flakes	
	
Process	Production of Dewaxed Shellac Flakes
Area	Ordnance factories, sealing, varnishing, ammunition, electrical industries and preparation of adhesives etc.
Uses	Bullet detonation and Wood varnish
Salient Features	Dewaxed Shellac is obtained from seed Lac .It is mainly used for the detonation of bullet in ordnance factories and for the production of wood varnish.
Scale	The Process is standardized at bench scale.
Major Raw Materials	Seed lac , Rectified spirit
Major Plant Equipment	Round bottom flask, Shaker machine.
Details of specific application	Dewaxed shellac is an important and useful product of lac, specially for its utility in ordnance factories, sealing, varnishing, ammunition, electrical industries and preparation of adhesives etc.
Status of development	It is ready for commercialisation.
Patenting details	Not Yet
Commercialization Status	Ready for commercialisation
Techno- economics	Available on demand
Key words	Seed lac , Rectified spirit , Saponification , Volatile matter
Production cost	550Tk/ 100 g

Products of BCSIR Laboratories, Rajshahi

Potash alum from Banana tree ash	
	
Process	A process for the production of Potash alum.
Area	Chemical pharmaceutical and textile industries.
Uses	Used as mordant in textile industries, used as food additive and raw materials in pharmaceuticals industries.
Salient Features	In Bangladesh, these industries fully depend on imported potash alum. Literature showed that banana tree ash is rich in potash content whereas every year about 42000-43000 tons of waste banana tree stems are generated in our country. In this process potash alum is produced from banana tree ash.
Scale	The process is commercialized at laboratory scale.
Major Raw Materials	Waste Banana tree, Milk of lime, Spent aluminium and Acid.
Major Plant Equipment	Balance, Specially designed oven, Stainless steel beaker.
Details of specific application	Potash alum is an essential chemical used in textile dyeing(as mordant), sizing paper, production of fire proofing materials, paints, purification of water, medicine and as tanning agent and food additive.
Status of development	The process is 2commercialized at laboratory.
Patenting details	Potash alum is prepared form natural source (waste banana tree) so that the process has an impact in waste commercial.
Commercialization Status	Patented.
Techno- economics	Ready for commercialization.
Key words	Available on demand.
Production cost	10Tk/ 100 g

Products of BCSIR Laboratories, Rajshahi

Papaya Jelly	
	
Process	A Process for the Production of Papaya Jelly
Area	Fruits Preservation
Uses	Development of Papaya fruit product.
Salient Features	Papaya contains carbohydrates, protein, minerals and vitamins. It is mostly consumed as fresh or decent fruit. Jelly prepared from papaya extract provides an article of food stamina. Due to lack of preservation technology, great quantities of papaya become wasted each year. It has a food demand in the local market as well as export potential.
Scale	The process is standardized at laboratory scale
Major Raw Materials	Papaya pulp, Sugar, Citric acid etc.
Major Plant Equipment	pH Meter, Refractometer, oven, blender, saucepan etc.
Details of specific application	Used as fruits based energy product.
Status of development	The product has been tested for nutritional values and microbial load. It is ready for commercialization.
Patenting details	Papaya Jelly is very delicious, tasty and very useful food for patients. The process and the equipments used are environment friendly. The production cost is in affordable level and it will create employment opportunities.
Commercialization Status	Patented
Techno- economics	Ready for commercialization.
Key words	Available on demand
Production cost	120Tk/ 500g

Products of BCSIR Laboratories, Rajshahi

Ripe Mango Pulp Powder	
	
Process	A Process for the Production of Ripe Mango Pulp Powder for Instant Drink.
Area	Fruits Preservation
Uses	Preparation of Soft Drinks, Squash, Nectar etc.
Salient Features	Mango fruit is perishable in ripe condition. Every year large quantities of mangoes become wastage due to lack of proper preservation knowledge. The economic utilization of this valued fruit is to preserve by drying the mango pulp to powder form to produce stable bulky and easily handled material
Scale	The process is standardized at laboratory scale
Major Raw Materials	Ripe Mango Pulp, Sugar, Citric acid etc.
Major Plant Equipment	Oven, pH Meter, Refractometer, blender, saucepan etc.
Details of specific application	Used for production of instant Drinks, Squash, and Nectar.
Status of development	The product has been tested for nutritional values and microbial load. It is ready for commercialization.
Patenting details	The raw material used herein is seasonal natural products that are available in large amounts. The raw material is environment friendly and cost effective. The equipments used and production procedure followed here are also environment friendly.
Commercialization Status	Patented
Techno- economics	Ready for commercialization.
Key words	Available on demand
Production cost	125Tk/ 250 g

Products of BCSIR Laboratories, Rajshahi

Green Mango Pulp Powder	
	
Process	A Process for the Production of Green Mango Pulp Powder for Instant Drink.
Area	Fruits Preservation.
Uses	Production of instant drinks from green mango pulp powder.
Salient Features	Green mango is highly nutritious fruits that can be used for production of pickles, juice etc. But due to storm large amount of green mango have been wasted each year. If is possible to develop proper preservation technology for this economic potential fruits then it will create a great opportunity to establish small industries throughout the country and to export in foreign countries.
Scale	The process is standardized at laboratory scale
Major Raw Materials	Green Mango Pulp, Sugar, Citric acid etc.
Major Plant Equipment	pH Meter, Refractometer, oven, blender, saucepan etc.
Details of specific application	For Production of Soft Drinks, Squash etc.
Status of development	The product has been tested for chemical and microbial parameters. It is ready for commercialization.
Patenting details	The raw material used herein is seasonal products that are perishable and available in large amounts. The raw material is environment friendly and cost effective. The equipments used here are also environment friendly.
Commercialization Status	Patented
Techno- economics	Ready for commercialization.
Key words	Available on demand
Production cost	100Tk/ 250 g

Products of BCSIR Laboratories, Rajshahi

Herbal Fish Feed	
	
Process	A process for the preparation of herbal fish feed in the remedy of catla fish diseases
Area	Fish feed production for aquaculture
Uses	Used as fish feed for major carps as well as in the remedy of fish disease.
Salient Features	Fish disease is the great threat in our fish culture system. Fishes affected by various types of disease decreases production significantly. The parasites, bacteria and fungus are most important pathogen for diseases outbreak. Now-a-days, different medicines, antibiotic and chemical are used for remedy of fish disease. This synthetic chemical insecticides and pesticides are reported to have residual toxicity which affects aquatic food chain. So, the use of medicine derived from plants for checking fish disease is necessary. The main features of this process are production of herbal fish feed in the remedy of fish diseases and preparation of herbal fish feed commercially.
Scale	The process is standardized at laboratory scale.
Major Raw Materials	Guava leaves , Garlic ,maize bran, mustard cake, wheat bran, soybean cake, ground nut cake, crushed oyster, etc.
Major Plant Equipment	Grinding mill, Balance (Conventional) and other.
Details of specific application	Used as fish feed produced from locally available raw materials which is cheap and safe for health vigor of fishes. In addition, it will facilitate prevention and remedy of fish diseases.
Status of development	The process is standardized at laboratory.
Patenting details	This herbal fish feed have no side effect to fish and its environment.
Commercialization Status	Not patented.
Techno- economics	Ready for commercialization.
Key words	Available on demand.
Production cost	30Tk/ kg

Products of BCSIR Laboratories, Rajshahi

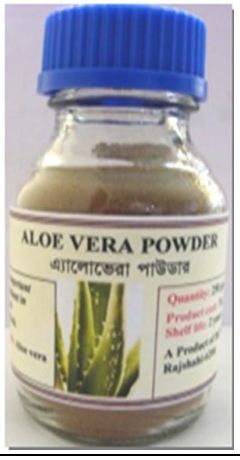
Aloe vera body lotion	
	
Process	A process for the production of Aloe vera body lotion
Area	Cosmetic and Toiletries Industry
Uses	Used as skin care product
Salient Features	Aloe gel can be applied topically to heal wounds and soothe skin. Aloe moisturizes the skin without giving it a greasy feel, so it`s perfect for oily skin. For mineral-based make-up, aloe vera acts as a moisturizer and is great for the face prior to the application to prevents skin drying. In addition, aloe vera stimulates fibroblasts, the skin cells responsible for wound healing and the manufacture of collagen, the protein that controls the aging process of the skin and wrinkling. It appears to help the pores of the skin open and receive the moisture and nutrients of the plant.
Scale	The process is standardized at bench scale
Major Raw Materials	Aloe vera
Major Plant Equipment	SS Vat with stirrer, filling machine
Details of specific application	The process is used as a natural moisturizer for the body.
Status of development	The process is standardized at laboratory.
Patenting details	Patent Filed
Commercialization Status	Ready for commercialization
Techno- economics	Available on demand
Key words	Body lotion, Aloe vera, Herbal cosmetic
Production cost	50Tk/ 100 g

Aloe Vera Vanishing Cream	
	
Process	A process for the production of Aloe vera Vanishing Cream
Area	Cosmetic and Toiletries Industry
Uses	
Salient Features	*Aloe vera* has been used for centuries for its medicinal and healing properties. It contains vitamins, minerals, amino acids and antioxidants that work wonders for the skin. It has antioxidant and antibacterial properties and hence it accelerates the healing of burns, helps prevent wrinkles, can reduce acne and lighten blemishes and works as a natural moisturizer.
Scale	The process is standardized at bench scale
Major Raw Materials	Aloe vera
Major Plant Equipment	SS Vat with stirrer, filling machine
Details of specific application	Give skin extra moisturization, and to keep it soft and supple. Its Aloe Vera protects the skin from bacteria, and regenerates damaged tissues. It is also an excellent sunscreen, guarding the skin against harmful UV rays of the sun. Its extra rich moisturizer gives the skin a smooth, satin finish. Oil and pH balancing Formula
Status of development	
Patenting details	Patent Filed
Commercialization Status	Ready for commercialization
Techno- economics	Available on demand
Key words	Vanishing Cream, Aloe vera, Herbal cosmetic
Production cost	80Tk/ 100 g

Shatamuli Powder Drink	
	
Process	A process for the production of Shatamuli Powder Drink
Area	Unani and Ayurvedic medicine Industry
Uses	The process is used as a natural dietary supplement.
Salient Features	*Asparagus racemosus* (satavar, shatavari, or shatamull) is a species of asparagus common throughout Nepal, Srilanka, India and the Himalayas. A*sparagus racemosus* (Shatavari) is recommended in Ayurvedic texts for the prevention and treatment of gastric ulcers and dyspepsia, and as a galactogogue. *A. racemosus* has also been used by some Ayurvedic practitioners for nervous disorders.
Scale	The process is standardized at bench scale
Major Raw Materials	Shatamuli Roots
Major Plant Equipment	Plant Crusher, filling machine
Details of specific application	➢ Useful in general disability, dyspepsia, dysentery, hyperacidity, stomachic, digestive and respiratory system. ➢ As a cooling, nervine tonic. ➢ Promotes healthy energy levels and strength ➢ Supports the immune system Natural antioxidant properties
Status of development	The process is standardized at laboratory.
Patenting details	Patent Earnd
Commercialization Status	Ready for commercialization
Techno- economics	Available on demand
Key words	Powder drink, Shatamuli, Herbal tonic
Production cost	80Tk/ 250 g

Herbal Tulsi Tea	
	
Process	A process for the production of Herbal Tulsi Tea
Area	Unani and Ayurvedic medicine Industry
Uses	The process is used as a herbal tea.
Salient Features	*Ocimum tenuiflorum*, also known as *Ocimum sanctum*, holy basil, or *tulasi* or *tulsi* is an aromatic plant in the family Lamiaceae. *Tulsi* has been used for thousands of years in Ayurveda for its diverse healing properties. *Tulsi* is considered to be an adaptogen, balancing different processes in the body, and helpful for adapting to stress. It is regarded in Ayurveda as a kind of "elixir of life" and believed to promote longevity. Traditionally, *tulasi* is taken in many forms: as herbal tea, dried powder, fresh leaf or mixed with *ghee*. Essential oil extracted from Karpoora *tulasi* is mostly used for medicinal purposes and in herbal cosmetics.
Scale	The process is standardized at bench scale
Major Raw Materials	Tulsi plant
Major Plant Equipment	Plant Crusher, filling machine
Details of specific application	❑ Enhances energy, stamina and endurance. ❑ Boosts the immune system. ❑ Provides a rich supply of antioxidants and other important nutrients. ❑ Balances the healthy digestive system
Status of development	The process is standardized at laboratory.
Patenting details	Patent Earned
Commercialization Status	Ready for commercialization
Techno- economics	Available on demand
Key words	Tulsi Tea, Herbal Tea, Tulsi Plant
Production cost	100Tk/ 250 g

Products of BCSIR Laboratories, Rajshahi

Aloe vera Powder	
	
Process	A process for the production of Aloe vera powder
Area	Unani/Ayurvedic/Cosmetics and Pharmaceutical Industry
Uses	The process is used as a raw material for the production of cosmetics and pharmaceuticals.
Salient Features	➢ It's easier to store ➢ It's easier to mix with other medicinal and cosmetic compounds. ➢ It's easier to ship. ➢ It's ready to use right away.
Scale	The process is standardized at bench scale
Major Raw Materials	Aloe vera
Major Plant Equipment	Plant Crusher, filling machine
Details of specific application	➢ *All skin care products, soothing creams & lotions, sun care & after-sun products, shampoos & conditioners.* ➢ *As an important ingredients in pharmaceutical (tablets, capsule, peel etc.).* *It has also a longer shelf life than liquid Aloe vera.*
Status of development	The process is standardized at laboratory.
Patenting details	Patent Earned
Commercialization Status	Ready for commercialization
Techno- economics	Available on demand
Key words	Aloe vera Powder, Aloe vera, Cosmetic & Pharmaceuticals ingredients
Production cost	125Tk/ 250 g

Products of BCSIR Laboratories, Rajshahi

Herbal Aloe Shampoo	
	
Process	A process for the production of Herbal Aloe Shampoo
Area	Cosmetic and Toiletries Industries
Uses	The product is used as a herbal hair care product.
Salient Features	Aloe vera is rich in amino acids and protein, which is good for a healthy hair. Since hair comprises of protein called keratin, you need more protein to help in hair growth. It is important that new hair takes place of old hair after it falls off naturally. Aloe vera contains something called proteolytic enzymes which repairs dead skin cells on the scalp. It also acts as a great conditioner and leaves your hair all smooth and shiny. It romotes hair growth, prevents itching on the scalp, reduces dandruff and conditions hair.
Scale	The process is standardized at bench scale
Major Raw Materials	Aloe vera
Major Plant Equipment	SS Vat with stirrer, filling machine
Details of specific application	➢ *Makes hair smooth, soft, healthy and shiny* ➢ *Nourishes hair and scalp the natural way* ➢ *Enhances hair growth, repairs damaged hair* *Helps to balance the pH level as well cleans*
Status of development	The process is standardized at laboratory.
Patenting details	Patent Earned
Commercialization Status	Leased out for commercialization
Techno- economics	Available on demand
Key words	Aloe vera, Shampoo, Aloe vera, Healthy & Shiny Hair, Herbal Cosmetic
Production cost	50Tk/ 100 ml

Products of BCSIR Laboratories, Rajshahi

Aloe Lemon Drink	
	
Process	Aloe Lemon Drink
Area	Food & Beverage Industries
Uses	The product is used as Beverage
Salient Features	Aloe vera has 150 different elements including 12 vitamins A, B1, B2, B3, B12 C and E as well as Ca, Na, Cl, Mn, Mg, Cu, Cr, Zn,Se, Ge, K, P, Fe, tanins and more than 18 amino acids. The gel contains among other things acemannan which improves celluar oxygenation as well as blood circutlation. Hence, when taken internally, aloe vera juice aids the digestion and absorption of nutrients, helps control blood sugar, increases energy production, promotes cardiovascular health, improves liver function, and boosts the immune system.
Scale	The process is standardized at bench scale
Major Raw Materials	Aloe vera
Major Plant Equipment	SS Vat with stirrer, filling machine
Details of specific application	➢ Provide instant energy ➢ Helps in digestion ➢ As a natural vitamin, protein and mineral enrich soft drink. ➢ Strengthens Immune System ➢ As an antioxidant
Status of development	The process is standardized at laboratory.
Patenting details	Patent Earned
Commercialization Status	Leased out for commercialization
Techno- economics	Aloe vera lemon drink, Aloe vera, Antioxidant
Key words	Aloe vera
Production cost	20Tk/ 250ml

Products of BCSIR Laboratories, Rajshahi

Aloe vera syrup	
	
Process	Aloe vera syrup
Area	Food & Beverage Industries
Uses	The product is used as Beverage
Salient Features	Aloe vera has one of the amusing compositions, consisting like a cactus of mpre than 99% water. The remaining 1% is a very powerful synergy of 150 different elements including 12 vitamins A, B1, B2, B3, B12 C and E as well as Ca, Na, Cl, Mn, Mg, Cu, Cr, Zn,Se, Ge, K, P, Fe, tanins and more than 18 amino acids. The gel extracted from Aloe vera is the most important part of the plant and contains among other things acemannan which improves celluar oxygenation as well as blood circulation. Hence, when taken internally, aloe vera juice aids the digestion and absorption of nutrients, helps control blood sugar, increases energy production, promotes cardiovascular health, improves liver function, and boosts the immune system.
Scale	The process is standardized at bench scale
Major Raw Materials	Aloe vera
Major Plant Equipment	SS Vat with stirrer, filling machine
Details of specific application	➢ Provide instant energy ➢ Helps in digestion ➢ As a natural vitamin, protein and mineral enrich soft drink. ➢ Strengthens Immune System As an antioxidant
Status of development	The process is standardized at laboratory.
Patenting details	Patent Earned
Commercialization Status	Leased out for commercialization
Techno- economics	Aloe vera lemon drink, Aloe vera, Antioxidant
Key words	Aloe vera
Production cost	80Tk/ 250 ml

Products of BCSIR Laboratories, Rajshahi

Amloki Powder Drink	
	
Process	Amloki Powder Drink
Area	Food & Beverage Industry
Uses	
Salient Features	The Indian Gooseberry belongs to the Euphorbiaceae family. It provides remedies for many diseases, so it is widely used in Ayurvedic treatment. Gooseberry is very rich in Vitamin C, and contains many minerals and vitamins like Calcium, Phosphorus, Iron, Carotene and Vitamin B Complex. Amla is also a powerful antioxidant agent. Many health problems are caused by oxidative damage (when body cells use oxygen, they produce by-products called free radicals that can cause damage). Antioxidant agents prevent and repair these damages. Vitamin-C is a good antioxidant agent, which makes gooseberries a powerful tool against a variety of conditions, including various types of cancer.
Scale	
Major Raw Materials	Amloki fruits
Major Plant Equipment	Plant Crusher, filling machine
Details of specific application	❑ Aids in digestion ❑ Improves immunity ❑ Helps body absorb calcium ❑ Improves eyesight ❑ Eliminates free radicals associated with aging
Status of development	The process is standardized at laboratory.
Patenting details	Patent Earned
Commercialization Status	Ready for commercialization
Techno- economics	Amloki, Powder Drink, Antioxidant
Key words	Amloki fruits
Production cost	50Tk/ 250g

Products of BCSIR Laboratories, Rajshahi

Gulancha Starch

Process	Gulancha Starch
Area	Unani and Ayurvedic medicine Industry
Uses	Gulancha starch is used in Unani and Ayurvedic medicine Industry for the production of different Unani and Aurvedic products.
Salient Features	Gulancha is a famous Ayurvedic herb, used extensively in treatment for fever, diabetes, urinary tract disorders, anemia, jaundice, asthma, cardiac disorders, etc. Guduchi is highly rich in anti oxidants. It has wound healing property, antipyretic (fever- reducing) and anti-viral properties.
Scale	
Major Raw Materials	Gulancha plant
Major Plant Equipment	Plant Crusher, filling machine
Details of specific application	This product has been prepared by the isolation of starch from stem of gulancha plant.
Status of development	The process is standardized at laboratory.
Patenting details	Patent Earned
Commercialization Status	Ready for commercialization
Techno- economics	Gulancha Strach, Gulancha, Unani and Aurvedic ingredients
Key words	Gulancha plant
Production cost	100Tk/ 250g

Products of BCSIR Laboratories, Rajshahi

Aloe ToothPaste	
	
Process	Aloe ToothPaste
Area	Personal care products Industries
Uses	Used as herbal toothpaste
Salient Features	*Aloe vera* (Aloe barbadensis) is a plant that belongs to *Liliaceae* family. It contains various minerals and vitamins. It has got various properties such as immunomodulatory, antiviral and antiinflammatory in nature. *A. vera*can play a significant role in dentistry in treatment of lichen planus, oral submucous fibrosis, recurrent aphthous stomatitis, alveolar osteitis, periodontitis, etc. Aloe vera toothpaste is effective in controlling bacteria that causes cavities than other commercially available toothpaste. A. vera gel's ability to kill and remove harmful microorganisms is due to compounds called anthraquinones, which are antiinflammatory.
Scale	
Major Raw Materials	Aloe vra
Major Plant Equipment	SS Vat with stirrer, filling machine
Details of specific application	
Status of development	
Patenting details	Patent Earned
Commercialization Status	Leased out for commercialization
Techno- economics	Available on demand
Key words	Toothpaste, Aloe vera, minty taste, non-abrasive formula
Production cost	70Tk/ 100 g

Products of BCSIR Laboratories, Rajshahi

Anti-fungal Oinment from Herbal Source	
	
Process	Anti-fungal Oinment from Herbal Source
Area	Unani/Aurvedic/Herbal Medicine Industry
Uses	Anti-fungal ointment
Salient Features	Garlic's rich antibacterial, antifungal, and antiviral properties make it a natural healing agent as well. Turmeric oil is additionally utilized in numerous skincare formulas for making skin appear younger. It protects the skin from harmful bodies and gives a flawless fair complexion. Its antimicrobial properties help to prevent and also treat acne and other skin infections. In the cosmetic industry, it is used in the anti-spot and anti-marks creams. Other skin issues that turmeric essential oil addresses include wounds, eczema, wrinkles, pigmentation of skin, pimples, acne, psoriasis, cuts, burns and other skin infections.
Scale	
Major Raw Materials	Oil of garlic, curcuma, eucaliptus
Major Plant Equipment	SS Vat with stirrer, filling machine
Details of specific application	❑ This anti-fungal oinment used to treat skin infections such as athlete's foot, jock itch, ringworm, and other fungal skin infections (candidiasis). ❑ This medication is also used to treat a skin condition known as pityriasis (tinea versicolor), a fungal infection that causes a lightening or darkening of the skin of the neck, chest, arms, or legs.
Status of development	
Patenting details	Patent Earned
Commercialization Status	Leased out for commercialization
Techno- economics	Available on demand
Key words	Anti-fungal Ointment, Essential oil
Production cost	125Tk/ 250g

Cracked heel Cream	
	
Process	Cracked heel Cream
Area	Cosmetics and personal care products Industries
Uses	
Salient Features	This product has been developed using the extract of medicinally important plant like Aloe vera, licorice root extract, mango stone and sesame oil as an active herbal ingredients. The combined ingredients synergistically act as an flammation and wound healing action on the crack of the heel and soothe Cracked, Dry, Rough, Hard Heels and Restore Soft Skin Instantly.
Scale	
Major Raw Materials	Aloe vera powder, Licorice extract
Major Plant Equipment	SS Vat with stirrer, filling machine
Details of specific application	❑ Intensive cream with different fruit extract deeply replenishes skin to deliver 24 hours of moisture. ❑ Creates a protective barrier for dry, cracked feet.
Status of development	
Patenting details	Patent Earned
Commercialization Status	Leased out for commercialization
Techno- economics	Available on demand
Key words	Cracked Heal Cream, Aloe vera, Licorice extract
Production cost	120Tk/ 250 g

Products of BCSIR Laboratories, Rajshahi

Herbal medicated hair oil from sesame oil	
	
Process	A process for the preparation of herbal medicated hair oil from sesame oil.
Area	Hair care and cosmetics
Uses	For hair and skin care
Salient Features	Our herbal medicated hair oil is prepared from sesame oil along with various kinds of indigenous plants extracts. So it has no adverse effect on the hair and skin. Moreover, it keeps the head cool, removes dandruff, protects the falling of hair and keeps the hair soft, healthy and smooth .
Scale	The process is standardized at lab scale.
Major Raw Materials	Sesame oil
Major Plant Equipment	Mixing Vessel, Filter.
Details of specific application	For preventing the hair fall, removing the dandruff, keeping the hair health, glossy and fresh.
Status of development	
Patenting details	Patent pending
Commercialization Status	Leased out for commercialization
Techno- economics	Ready for commercialization.
Key words	Hair oil, Herbal.
Production cost	100Tk/ 250 ml

Products of BCSIR Laboratories, Rajshahi

Herbal After shave lotion from lemon leaves oil.	
	
Process	A process for the production of Herbal After shave lotion from lemon leaves oil.
Area	Skin care and cosmetics
Uses	Skin care product
Salient Features	It is used for cleaning greasy skin and hair as well as removing dead skin cells, easing painful cold sores, mouth ulcers, herpes and insects bites. It helps to give a healthier, clearer and smoother skin by removing acne, pimples and other bacterial and fungal infection. Hence, a herbal after shave lotion has been produced by using lemon leaves oil which has a lot of benefits in keeping our facial skin smooth and fresh.
Scale	The process is standardized at lab scale.
Major Raw Materials	Lemon leaves oil .
Major Plant Equipment	Microwave gravity extraction system, Mixing Vessel, Filter.
Details of specific application	Keeping the skin fresh, prevents fungal infections and itching.
Status of development	The process has been verified.
Patenting details	Patent pending
Commercialization Status	
Techno- economics	Now it is ready for commercialization.
Key words	
Production cost	50Tk/ 250 ml

Carboxymethyl Cellulose from Corncob	
	
Process	A process for the preparation of Carboxymethyl Cellulose (CMC) from Corncob.
Area	Food, pharmaceuticals and textiles.
Uses	Used as thickener, stabilizer, emulsifier , binder etc.
Salient Features	CMC is widely used in food, pharmaceuticals and textile industries. The novelty of this work is to produce good quality low cost CMC from corncob as an agricultural waste with higher DS (Degree of substitute) value as well as higher purity so that it can be used for food and pharmaceutical based products.
Scale	The process is standardized at lab scale.
Major Raw Materials	Corncob (Waste of corn)
Major Plant Equipment	Water bath, grinding machine, stirrer, Mixing Vessel, Filter.
Details of specific application	Food, pharmaceuticals and textile industries.
Status of development	The process has been accepted and ready for lease out.
Patenting details	Patent pending
Commercialization Status	Ready for commercialization.
Techno- economics	
Key words	CMC, purity, DS, pharmaceutical
Production cost	60Tk/ 250 g