

## **Innovative Value Added Products: Ready for commercialization**

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### **Rice Based Products**

Keeping in mind the enormous potentials of various fractions of rice, systematic studies is being done at ICAR- IIRR to develop various rice based products having different properties. During the last five years following useful Innovative products have developed which will be enhancing the usefulness of rice by-products and the profitability of rice farmers in India. The technologies of these products are ready for commercialization.

#### **RICE RICHE MOISTURIZING LOTION**

The product, Rice Moisturizing Lotion is a skin care product made from rice bran oil and aqueous brown rice extract as key ingredients. The product is light, non-sticky and smooth, and is suitable for normal and oily skin. Its regular application makes skin smooth, soft and supple.

Preparation of this product is very simple and cheap. At laboratory scale, production cost of 100 g of the product is only Rs. 15/-. Small scale entrepreneurs can start a business with a facility of production unit costing Rs. five lakhs, and 50 kg of the product can be produced every day. Existing Skin care/ cosmetic industries may also take this technology.



#### **RICE RICHE PAIN RELIEVING GEL**

Rice Riche Pain Relieving Gel is a topical product. The product is highly effective for minor aches and pains of muscles and joints associated with simple strains, bruises and sprains. The product contains known natural/ herbal ingredients like Camphor, Menthol, Methyl salicylate, Eucalyptus oil, Rice bran oil as key ingredients.

This product has become very popular among the users. 100 % users reported that they got immediate relief from muscle pain/sprain/joint pain. Majority of the respondents (71.5%) felt that this product is better / much better than the available products in the market.



The production cost at laboratory level is Rs. 20/- per 25 g of the product. With an investment of Rs. five lakhs, one can produce 50 kg of the product daily.

### **RICE RICHE CREAM FOR CRACKED HEEL AND DRY SKIN**

This product is useful for therapeutic and cosmetic applications such as cracked heels, dry skin disorder. The major ingredients of the product are rice bran oil, brown rice extract, humectant and water.

The formulation, apart from healing the cracks on heels, is useful in arresting the bleeding due to cracks and reducing the pain. The cream has the excellent effects of softening the heel and the foot skin. It enhances skin elasticity. Interestingly, compared to commercially available products, the recurrence of cracks is less severe among the users.



At laboratory scale, the production cost of 50 g of the product is Rs. 25.50 which can be further reduced if it is prepared at commercial scale. Potential buyers of this technology are skin care/ health care/cosmetic industries.

### **RICE RICHE FACE SCRUB**

Rice Riche Face Scrub is an exfoliation product containing rice bran oil, rice flour from broken rice, humectant as major ingredients. It removes dead skin cells to give a more polished and healthy look by making skin softer and brighter. The product is mild enough to be approved for daily use by male and female both. Regular use of the product protects from the problem of blemishes and dark spots, and flakes around nose and chin area.



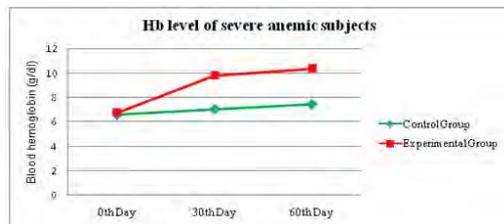
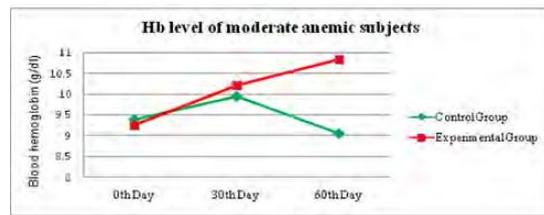
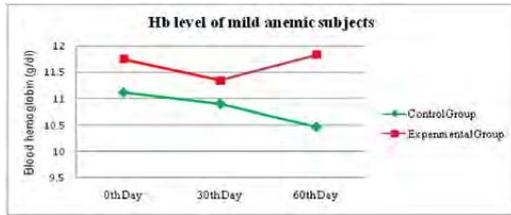
Protocol for preparation of the product at laboratory level has been standardized. Cost of production at laboratory scale is Rs. 18/ per 100 g of the product. **Potential buyers of this technology:** skin care/ health care/ cosmetic industries.

### **IRON FORTIFIED RICE**

This is a product for prevention and correction of iron deficiency and iron deficiency anaemia. The process for making fortified rice simple and cost effective and provides iron in the range of 35-40 ppm in the fortified rice. Feeding trials of the fortified rice showed that haemoglobin level significantly increased in two months in severe and moderately anaemic

subjects. It can be an effective solution to prevent the enormous prevalence of anaemia in India.

**Potential buyers of this technology:** Rice Millers involved in parboiling process.



## Patented Aloe vera Based Products

*Aloe vera* is known remedy for many digestive disorders such as irritable bowel syndrome, ulcerative colitis, Crohn's disease, oesophagitis, peptic ulcers and oral lesions Aloe gel can among other things, enhance immunity, improve liver function, prevent asthma and act as anti-inflammatory, anti-ulcer, anti-diabetic and anti-hypertension agent. Because of these potential properties, *Aloe vera* has found application in food industry especially in the formulation of health food drink, functional food and other beverage. Indian patents have been granted to Indian Council of Agricultural Research to the following useful Aloe vera products.

### **1) Indian Patent No. 290217** granted on December 04, 2017:- **A novel method for isolating aloin by extraction from yellow sap of Aloe vera.**

The process is simple and is carried out at ambient temperature. The organic solvent used in the process may be recovered and reused. The extracted compound has laxative and other pharmaceutical properties. Moreover, its several derivatives are of immense utility in different medications. Due to these properties, aloin has industrial utility and is in great demand in international market. **Potential Users: Pharma Industry**

### **2) Indian Patent Number- 285360**, Granted on July 19, 2017:- **Preparation and Method of Process Aloe Candy from Aloe species.**

This invention relates to a novel shelf stable product called Aloe candy exhibiting appealing flavor, color, texture, ready to eat delicacy from the leaf of *Aloe vera* or other species of Aloe, having bioactive polysaccharides 0.2 to 0.34%, moisture content 15 to 20%. **Potential User of the Technology- Food Industry.**