

# The Potential Health Management with Moringa Powder is Potent Immune Booster to Protect in The Calamity of Covid-19

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**Abstract-** Moringa oleifera leaves are commonly known as “Drumstick leaves”, it is also called “Miracle Tree,” “Mother’s Best Friend,” and “Never Die”. While traditional Ayurvedic medicine used for prevent hundreds of diseases. The scientific evidence is accumulating to support many of the healing properties of Moringa. It is significant nutrient rich food source found on earth. It is a weapon against blindness. Around the world Moringa is the subject of legends and praise, awe and respect so much. Newly developed moringa leaf powder can be consumed by all age groups and genders, it brings the miracle to your home, it mostly helps the lactating mothers in increasing the breast milk and advance nutrients for children like iron, calcium and potassium. Most childhood diets don’t contain a very wide range of nutrients which in long run cause the chronic diseases. To reduce the gap between the requirement and intake in growing children moringa powder gives the very effective results. Even though the moringa may take in the supplement quantities, it gives the nutrient of the whole food. It can be consumed directly as powder and semi-liquid like past food. When combined with amla, it increases the iron absorption in our body, which in turn helps boost immunity to stay healthy and fight against coronavirus. It can be stored for period in dry conditions with some basic precautions. The availability and the cost are more friendly to all classes of people. The moringa leaf powder have been shown to be a very effective therapeutic food in the rehabilitation of severely malnourished people and facilitates home-based therapy of these people to meet the nutrition value. The goodness of vitamin C has been overemphasised for building immunity and working to fight off all viruses include covid-19. Moringa is exceptionally rich in Vitamin C. The moringa leaf powder obtained medical evidences are pertaining for its Nutritional, Therapeutic and Prophylactic Properties. The moringa powder can boost strong immunity against corona virus (Covid -19).

**Keywords**— Immunity booster, Moringa oleifera, Nutrient rich, strong nutrition, Covid-19.

## I. INTRODUCTION

Human life is dependent on basic elements are **Earth, Water, Fire, Air and Ether**. But the some natural elements restrain the life not survives without Basic elements. If spoil the basic elements no life present in the world. Most of the Life is dependent on basic elements such as air and water. But the same natural elements also convey death for almost all microorganisms on earth which are reflected in air or water. Human being is highly susceptible to such infections where an array or air and water borne diseases are being encountered by us almost on a regular basis. Unexpected the global climate change natural elements then required extra immune booster to prevent all type of disease differs from one climatic zone to other.

The present global disease monitoring reveals that there is a steep rise and alteration in disease epidemiology which is directly or indirectly related to climate change and associated with environmental factors. The scientists and *researchers said* that strong immune system prevent

environmental disease like covid-19. The god gift natural immunity booster is moringa leaf powder. The moringa leaves are obtained from moringaoleifera tree, it grow mainly in semiarid, tropical, and subtropical areas, particularly suitable for dry regions, it is most widely cultivated species of a mono generic family, that is native to the sub-Himalayan tracts of India, Pakistan, Bangladesh and Afghanistan. This rapidly-growing tree called different names in different region shorsera dish tree, drumstick tree, benzolive tree, kelor, marango, mlonge, moonga, mulangay, saijhan, sajna or Ben oil tree etc. The tree was utilized ayurvedic medicine by the ancient Romans, Greeks and Egyptians. In ancient days the bark, sap, roots, leaves, seeds and flowers are used in traditional medicine. Extracts from leaves contain low contents of polyphones which are under basic research for their potential properties. Despite considerable preliminary research on the biological properties of moringa components, there are few high-quality studies on humans to justify its use to treat human diseases. India is the largest producer of moringa, with an annual production of 1.1 to 1.3 million tonnes of fruits from an area of 380 km<sup>2</sup>.



Moringa tree intake of different farms to boost the immunity.

The leaves are the most nutritious part of the plant, being a significant source of B vitamins, vitamin C, provitamin A as beta-carotene, vitamin K, manganese, and protein, among other essential nutrients. A large number of reports on the nutritional qualities of Moringa. For all babies above 6 months the World Health Organization recommends that around 10–15grams of Moringa leaf powder can be added to every 100g of breast milk or Milk formula in order to fortify & boost the nutritional value of the milk. This will provide your baby with a plethora of vitamins, minerals and essential amino acids (protein) which have been seen to greatly improve the development of infants in many areas including but not limited to strong teeth and bones, healthy eyes and brain development, growth and development of internal organs support as well as increased resistance to illness. Parents are advised, however to make sure that they get Moringa from a reputable source as just as Moringa can provide massive benefits, moringa which is contaminated with GMO (genetically modified organisms), pests or pesticides can be equally harmful to your baby. The nutritional value of Moringa leaves are extremely high, bringing the hope of complete nourishment to both the communities that eke out a marginal existence and even in the industrial and urbanized world where modern farming and food processing techniques bring us food, but with many of the vital nutrients absent or destroyed. Progressive governments and NGO's are planting Moringa in many communities to increase food security and protect themselves from climate change. We recommend that your Moringa is GMO free, Organic, Green in color (without debris) as well as having successfully passed Microbial, and phyto-sanitary testing.

Now a day's newly developed foods combination with moringa powder obtain highly nutritive values and rich in iron, potassium and calcium which is mostly useful to the growing immunity power and boost metabolism, it fights diabetics, lowers cholesterol level, improves digestion and improve immune system. It is very soft and good taste. The many moringa food products are helpful for human complete requirement of diet. If we take the moringa powder then it full fills all nutritive values what require in our diet.

In the world most of the people do not get their requirement of nutritive values with everyday intake of food. So many people in village and remote areas, especially children's are suffering with the malnutrition. The moringa powder which is easily available in our

kitchen garden, to reduce the difficulties and good supplementary food for all age groups. **Moringa powder** is an excellent natural supplement for children due to it being completely natural, organic and having not been irradiated. The Calcium contains particularly important in building strong bones and teeth. Bone density suffers when calcium needs are not met during childhood years. Calcium, the most abundant mineral in the body, gets particular attention for its role in keeping bones strong. Moringa contains 17 times the calcium content in milk. Fractures reported among children and young adults are on the rise due to calcium deficiency. It is also a key mineral needed for muscular contractions, beating of the heart, is involved in wound healing and proper function of hormones and neurotransmitters in the brain. Calcium in the blood helps maintain heart rhythm, and promotes proper bloody clotting and muscular function.

Moringa powder contains Magnesium which is important to 300 body functions, including the muscles, nerves and heart. It boosts your immune system and strengthens bones. It contains Iron which is an oxygen-carrying component of blood people need iron for expanding blood volume which is especially required during periods of rapid growth. Iron is a common concern for babies because several factors can lead to its deficiency in infants. Iron content of Moringa powder is 25 times of iron in spinach. Wheat is the major raw material of the moringa products which is rich in protein content. The milk powder one of the raw materials of the product. It amino acids very soft and easily digestive because the children's digestion system very sensitive so the soft protein highly digestible to children.sugar is added to the product to increase the taste as the children love to have the sweet in taste and coca is added to the product to decrease the bitter taste of moringa and increase the aroma and taste of the product. The moringa product has the proximate composition of moisture, protein, Fat, Total ash, Crude Fiber was estimated by the FSSAI standard methods.

Table 1

SL NO	RAW MATERIAL	FORMUL A 1 %	FORMULA 2 %
01	Moringa powder	10	10
02	RoastedWheat Flour	25	20
03	Skimmed Milk powder	17	17
04	Bengal Gram Dal	10	10
05	Sugar	25	30
06	Sunflower oil	10	10
07	Coco powder	3	3
Nutrition powder with moringa Powder product			

#### Health benefits of moringa powder product

1. Boosts immunity
2. Improves the regulation of blood sugar level
3. Strengthens your bones and joints
4. Improves sleep, Eye health
5. Improves lactation
6. Enhances the fat burning process in the body
7. Fighting against bacterial diseases

8. Protecting and nourishing skin and hair
9. Protecting the liver

Moringa contains many healthful compounds such as:

- vitamin A
- vitamin B1 (thiamine) , B2 (riboflavin) ,B3 (niacin), B-6
- folate and ascorbic acid (vitamin C)
- calcium, potassium, iron, magnesium, phosphorus
- zinc

## II. SIDE EFFECTS

Anyone considering to use moringa powder first takes advice with a doctor. Moringa may possess anti-fertility qualities and is therefore not recommended for pregnant women. There have been very few side effects reported. People should always read the label on the extract and follow dosage instructions

## III. METHODOLOGY

Commercial product making process obtained many unit operations are involved in the processing. All the leaflets Strip the from the moringa leaf petiole. This can be done directly from the branches by the human labor at this stage, diseased and damaged leaves are discarded manually. Leaflets are washed trough using clean potable water to remove dirty. Again the leaves are washed in 1% saline solution for 3-5 minutes to remove microbial contamination. The leaves are now subjected to the drying. The two types drying used for the product, one is solar another one is mechanical drying. In solar drying the leaves are spread on a UV treated or opaque polyethylene sheet.

The filtered air is blown on the spread. Organza or muslin cloth can be used as a filter. Spread the moringa leaves thinly on mesh and dry in the dryer for about 4 hours (Temperature range is 35°C–55°C on a very sunny day). The final product obtained is brittle. Moringa leaves are subjected to the mechanical drying (electric or gas hot-air dryers). Drying temperatures should range between 50°C and 55°C. If temperature exceeds 55°C, moringa leaves will "burn" and turn brown. The Moringa leaves should be dried until their moisture content is below 10%. This method is used for large scale leaf processing as this ensures year round production. The loading density should not exceed 2.5 kg/m<sup>2</sup>. Now the dried moringa leaves are fed into hammer mills for milling or leaves can be pounded in a mortar or milled with a kitchen blender. The sieving of the moringa powder is done with different sizes of the sieves obtain for fine powder. If too coarse, sift using a sifter with the desired screen size. Recommended moringa powder particle sizes are coarse (1.0 mm – 1.5 mm) Fine (0.5 mm – 1.0 mm) Very fine (0.2 mm – 0.5 mm). Moringa leaf powder strongly attracts moisture and the product can reabsorb humidity during or after milling. For this reason, moringa leaf powder should be dried at 50°C for 30 minutes to reduce moisture content considerably below 7.5%.

Wheat used is undergone number of unit operations. The cleaning and de stoning process removed the dust particles stones like inorganic matter as well as leaves, wood particles like organic matter, other edible grains remove through cleaning machine and de stoning machine. The cleaning machine has three different types and different size of meshes build inside of the cleaning machine. The air blower also attached the top of cleaning machine. The cleaning machine contains two vibrators that vibrate as per specification. The cleaning machine vibration depend on mote RPM, it can be adjustable motor speed rpm as per their requirement. The speed of motor rpm depends on different grains of raw material. According the grains it will be changed the motor speed as well as the blower speed flow of air also can be adjustable, it will be changed different grain because weight of the grains different so we need to change the speed of air flow of blower. It is helpful for remove the all organic matter and inorganic matter from the seeds. After the cleaning the raw material enter the de-stoner to remove the only stone particles this also work with vibration of de-stoner and air blower also help for remove the stone particles. The roasting of peanuts one of major unit operations for roasting, the roasting of grains are making through sand roaster. The roaster contain long drum and rotating indicate speed with specific rpm. The roasting process we are using the long drum this is a sand roaster for roasting the raw material.

The roasters drum bottom setup the fire for roasting of raw materials like wheat and Bengal gram dal. The roaster maintains the temperature at 120°C to 140°C. The wheat and Bengal gram dal roasting continue process, the raw material uniform continue flow enter the roaster inlet, the bottom of drum fire continues applied for roasting. The raw material and sand both are mixed in drum after roasting the raw material is discharged the roaster outlet but the sand sends back in to the drum. The roaster outlet have sieve mesh so the sand send back to the roaster drum through the sieve mesh because the sand core size less than the mesh size. The unit operation made for quality roasting, that hot sand reputedly mix with the raw material. The process deactivates the enzymes and improves the aroma and taste, killed the micro organisms. The grinding of all raw materials are using the grinding machine, the powder of raw material pass through 200 micron sieve. The fine powder increases the chewiness of the product. The individual ingredients are grinding fine powder approximate pass through 200 micron sieve. The other raw material milk powder is purchased, the preparation involved in the making of the milk powder are milk is subjected to the high temperature by spray drying. According the formula of the new moringa powder all the raw materials are added and mixed thoroughly. After mixing all ingredients again grinding the new product has done, it is coming very soft and increases s. The product needs to pour any trays for shape, the shape of product depend upon our requirement and client requirement. The shape of product play significant role for sell of product. The new product is packed with suitable packaging material.

#### IV. RESULTS AND DISCUSSION

The newly developed moringa powder new products are highly nutritive values and comfortable for consume. The newly developed moringa powders contain good taste and aroma. The quality control analysis of the new product is followed by FSSAI specifications. As per analysis the new product contains high protein, high fat content, highly carbohydrates, it contain highly vitamins and minerals. The product easy to consume and natural atmosphere conditions required for storage so the product easy to store simply dry conditions. The final result of the new products under malnutrition people especially children are able to see visible improvements in their health, mental growth, increase the resistance powder of the children. The product brings the sound to all the home with less cost and more availability of the product. Other important health benefits are increase bone strength and resistance growth to many long run diseases. Quality control laboratory is achieved by adopting operating procedures that are internationally accepted as standards for food production, the laboratory certified by NABL and ISO 22000, Hazard Analysis and Critical Control Point Program (HACCP). These procedures prescribe by this laboratory .All raw material purchase, storage conditions, mixing of raw material and storage of finished product. In addition to international standards which regulate the production of food, it also prescribes operating standards, conduct inspections of production area and issue certificate for the product. The product testing is used to verify the quality of the production process. It should be done with every batch of finished product, the finished product is tested for contaminating microbes (salmonella, staphylococcus, total flora of aerobic mesophilic bacteria, coliforms, E. Coli, yeast, mold), aflatoxin and product composition (fat, protein and potassium, calcium, magnesium). Testing is best done in quality control department. The Batches of final product should not be sent to consumers without verification of product quality. The new products are increased immune system and body metabolism. The products are fight against the covid-19 and other microbial contamination.

Table 2

sl.no	Nutrition composition	FORMUL A-1 100g %	FORMUL A-2 100g %
1	Moisture (g)	4.0	4.0
2	Protein (g)	13.0	12.8
3	Fat (g)	12.0	11.9
4	Carbohydrates (g)	54.8	59.8
5	Energy (K.Cal)	400	420

#### V. CONCLUSION AND FUTURE SCOPE

As outlined above, the major future challenge is the potential increased demand for new products. Nutritional require countries are adopted and expand products confer potential health benefits to the people in world wide. The WHO and UNICEF are working to prevent the

malnutrition and external partners on development of sustainable therapeutic food like new products. Overly product development process made new products are potent immune booster to protect in the calamity of covid-19. Future scope of this study elaborates the different covid-19 variants, enhance nutritional requirements future health protect products with the moringa products

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