

The following pages are examples from my (30) Page Summary of the diverse products made from the mango

List of products to be made from the mango

a series of food and nutritional products utilizing the entire mango

Mangos are low in calories, and including it in your meals, it adds antioxidants, vitamins, minerals and some [heart-healthy fiber](#).

Typically picked before they are fully ripe, mangoes are ripened at room temperature and then refrigerated, **The seeds are edible. They're flavourful and full of nutrients as well as a source of antioxidants, fats and protein, according to a September 2016 review in [Trends in Food Science & Technology](#).**

The seed of an unripe, green mango is soft and may be easily cut with a knife compared to the tough, fibrous seed of a ripe mango. "Mango seeds can be eaten, but it's best to retrieve them from an unripe mango. Seeds from ripe mangoes are typically hard and bitter," Mathis says.

The fatty acids obtained from the MSK have many similarities with cocoa butter in terms of properties, such as solid fat content, triglycerides, crystallization, and melting point; therefore, it used to replace cocoa butter. Premium-grade mango seed fat and oils (extracted by modern technologies like supercritical fluids) have premium characteristics and, along with palm stearin, can be used in the preparation of temperature-resistant chocolates in tropical countries [87].

Mango pulp is processed into a number of high-value products, like juice, puree, and jam, with the peel and kernel as byproducts. Mango peel is known to contain pectin, dietary fiber, vitamins, carotenoids, and phenolic compounds, having health-promoting effects. Mango seed contains notable amounts of starch, essential amino acids, and oil. Mango seed oil is rich in oleic and stearic acids, and contains different phytochemicals.

Mango seed has been used in the production of mango butter and seed flour, which are used in functional foods. The proper use of mango peel and seed (raw materials) in food and feed preparation not only improves the economy, but also reduces the environmental impacts. The bioactive compounds found in the three parts (pulp, peel and seed) of *M. indica*, such as mangiferin, gallic acid, catechin,

quercetin, β -carotene, shikimic acid, and kaempferol, have been reported to have antioxidant effects.

These compounds are also well-known for their anticancer, anti-diabetic, anti-inflammatory, skin-protecting, neuron-protecting, antimicrobial, and anti-aging effects. However, more pharmacokinetics, pharmacodynamics, and clinical trials are required to assess the toxicity or the safe dose of these molecules. Nevertheless, mango is considered safe and even beneficial for cellular functioning, and regular consumption of fresh mango fruit and/or use of its byproducts could promote overall health.

Most African mango [weight loss](#) supplements use extracts from the seed of the fruit. The seed is rich in soluble fibers and provides important dietary elements like healthy fatty acids and plant proteins. It is also packed with iron, riboflavin, calcium, sodium, phosphorus, and magnesium. Studies have found 41 phenolic compounds including tannins, flavonols, and ellagic acid in African mango seeds. These compounds act as powerful antioxidants and eliminate harmful free radicals from your body.

African mango is among many popular supplements marketed to boost weight loss. Although it's relatively new to the Western world, it has been eaten and used medicinally in Africa for centuries.

This article reviews the nutrients, benefits, and downsides of African mango. Sometimes, AME is blended with other extracts from green tea, berries, and [kelp](#) and sold as supplements ([9Trusted Source](#)).

The extract is purported to inhibit the growth of fat cells, although further human studies are needed ([1Trusted Source](#)).

African mango extract (AME) is derived from the fruit's seed.

The seed is rich in vitamins and minerals like iron, calcium, [magnesium](#), phosphorus, and sodium. What's more, it provides soluble fiber, antioxidants, and plant protein ([5Trusted Source](#), [11Trusted Source](#)).

Plus, it's high in fat, with the greatest amounts coming from myristic and lauric acids — two saturated fats also found in coconut oil ([7Trusted Source](#)).

African mango extract (AME) is derived from the fruit's seed.

Research on weight loss

In a 10-week randomized controlled study, 52 adults took 300 mg of AME daily. On average, they experienced 28 pounds (12.8 kg) of weight loss, a 6.4-inch (16.2-cm) reduction in waist circumference, and a 6.3% dip in body fat ([5Trusted Source](#)).

Plus, fasting blood sugar and both total and bad (LDL) cholesterol fell significantly ([5Trusted Source](#)).

Other research shows similar effects.

In a 90-day study in 24 adults with metabolic syndrome, a group of conditions that raises your chronic illness risk, those who took 300 mg of AME daily had significant drops in blood sugar, waist circumference, [triglycerides](#), and VLDL (bad) cholesterol, compared with a placebo ([13Trusted Source](#)).

Another randomized controlled study in 72 adults combined AME with [Cissus quadrangularis](#) (CQ), a succulent vine. After 10 weeks, the CQ-only group experienced an 8.8% decrease in body weight, and the CQ and AME group an 11.8% decrease, on average.

The reductions in body fat and waist circumferences for the CQ and AME group were also significant ([12Trusted Source](#)).

These studies suggest that AME reduces body weight, body fat, waist circumference, blood sugar, triglycerides, and cholesterol. All the same, more human studies are necessary.

3.3. Mango Squash

Mango squash is a concentrated drink consisting of 25% juice, 45% TSS and 1.2 to 1.5% acidity with either sulfur dioxide or sodium metabisulfite as a preservative [[31](#)].

3.4. Cordials

Cordials are simply crystal-clear squashes obtained through filtration of the juice, using either special juice filters or a hygienic muslin cloth or strainer. Cordials have a TSS concentration of 12–14% of °Brix and 3.5% acidity, adjusted by addition

of sugar and citric acid, respectively, and preserved by either sodium benzoate or sodium metabisulfite. Mango cordial can be produced on its own or blended with other fruits or vegetables such as pineapple or carrot juice.

3.5. Mango Nectar

Mango nectar is similar in composition to squash, except for the presence of a preservative in squash [32,33,34]. Mango nectar consists of 20–33% pulp content, TSS of 15°Brix and 0.3% acidity as citric acid, other ingredients (sugar, citric acid, vitamin C), and carboxymethylcellulose as a stabilizer.

3.6. Mango-Juice-Enriched Probiotic Dairy Drinks

Mango juice in combination with other fruit juices has the potential to be used as a new food matrix alternative to dairy products as a delivery vehicle for probiotics [35]. Mango juice improves the quality characteristics of fermented beverages and the viability of probiotics [36]. Mango pulp can also be used as a thickener or texture modifier or replacement for sugar in mango-flavored probiotic milk drinks [37,38,39,40].

3.7. Mango Wine

Mango wine is another beverage product derived from mango that can improve the value of mangos and reduce postharvest losses [41]. Due to its high sugar content (total soluble solids content > 16), mango pulp is an appropriate substrate for fruit wine fermentation [42]. The ethanol and aromatic components in mango wine have been shown to be comparable to those of grape. However, mango wine characteristics are affected by a number of factors including fermentation temperature, which affects not only the rate of yeast fermentation and duration but yeast metabolism. This in turn affects the chemical composition and the quality of the wine. The incorporation of sulfur dioxide, which is both an antioxidant and antimicrobial that is critical in inhibiting any spoilage microorganisms in wine production, can affect the volatile compound synthesis during fermentation such as increased acetaldehyde formation in mango wine. Furthermore, the type of yeast strain has an impact on the character and quality of mango wine) [43,44,45].

4. Dried Products

Dried mango products (slices or flakes) are generally prepared from ripe mangoes and dehydrated using a variety of methods including solar, hot-air cabinet, vacuum, spray, or freeze dryers. The dehydrated mango products are intended for either direct market or used in other formulations such as mango leather and powder [46,47,48]. The production process for dehydrated mango slices, dices, and chips are similar, other than the shape and size of the product. The ripe mango fruits are washed, peeled, pitted, and the pulp is sliced longitudinally into uniform thickness. The slices are then subjected to different specific pretreatments such as blanching, 0.5–1% citric acid, 0.2% ascorbic acid, and 40° Brix sugar to preserve product color and improve product stability. The pretreated slices are then dried at a temperature of 60–65 °C. Citric acid and ascorbic acid pretreatments before drying at 50 °C and 65 °C have the optimal outcome and produce the best physical quality parameters [49]. Different pretreatments prior to drying have significant effects on

the moisture content, equilibrium relative humidity (ERH), water activity, and color parameters. Rehydration characteristics are affected by the different pretreatments with the most effective being 0.5% citric acid having the maximum rehydration ratio and coefficient of rehydration [49]. The dried mango slices have better antioxidant properties compared to fresh, probably due to synergistic effects of polyphenols and flavonoids) [50].

4.1. *Mango Leather*

Fruit leathers are dried sheets of fruit pulp which have a soft, rubbery texture and a sweet taste [51]. Leathers can be produced from a variety of fruits, although mango, apricot, banana, and tamarind leathers are amongst the most popular. Mango leather is produced by spreading the pulp evenly in a thin layer on a tray coated with vegetable oil to a depth of 1 cm and drying in mechanical or solar dryers to a final moisture content of 15–20% [51,52]. Solar drying can take a much longer time, leading to discoloration of the pulp. Addition of guar gum, pectin, and ascorbic acid reduces the discoloration of the mango leather. Preservatives such as sodium metabisulfite can be added to extend the shelf life [51]. Incorporation of sucrose, pectin, and maltodextrin reduced the drying rate of mango leather [8].

Mango leather can also be produced by refractance window drying (RWD) which is synonymous with cast-tape drying (CTD) [53,54]. This drying method is characterized by the fruit pulp that is to be dried being spread on a transparent polyester film, commercially known as Mylar (DuPont®). The lower surface of Mylar is kept in contact with hot water which supplies the heat for the product drying. RWD is a drying technique developed for drying of food pulp and purees to retain nutritional quality at relatively low processing temperatures with reasonable capital costs [55]. RWD of mango resulted in much shorter drying times and the mango leather obtained had better quality with higher nutrient retention compared to conventional drying. In addition, scanning electron microscopy showed that RWD resulted in powder particles of irregular shape and smooth surface with uniform thickness. On the other hand, tray and oven drying resulted in powder particles of corrugated, irregular, and crinkled surface with uneven shape and thickness [13].

4.2. *Mango Powder*

Mango powder is used as a flavor enhancer in various foods and beverages such as in ice cream, yoghurt, and the bakery and confectionery industries. Dried mango powder is processed by dehydrating mango pulp to a moisture content of 3% moisture using spray, freeze, vacuum, or drum dryers. However, it has been demonstrated that physiochemical properties of Refractance Window®-dried mango (RW-M) powder are comparable to the freeze-dried counterpart and are better than drum- and spray-dried mango powder [56]. One of the challenges in obtaining physically stable powder from dry fruits is their susceptibility to caking during processing and storage [57]. Caking is characterized by powder agglomeration, consolidation, and adhesion and has a negative impact on shelf life of powder. Caking also results in poor rehydration, lower reduced sensory properties, and short shelf life. To mitigate caking and improve hygroscopic properties of powder, carrier agents such as maltodextrin, starch, cellulose, or gums are used at a concentration of between 1 and 20% dry basis [58].

Mango jams and jellies are semisolid gels, which are made using the same general process [8,59]. Both of these products are made from fruit pulp, with added sugar, pectin, calcium chloride, and citric acid. Jelly is a clear or translucent fruit spread made from sweetened fruit juice and set using naturally occurring pectin. It is made by a process similar to that used for making jam, with the additional step of filtering out the fruit pulp after the initial heating. The incorporation of stem extract of medicinal plant marjoram into mango jam inhibited food spoilage bacteria viz. *Bacillus cereus* and *Bacillus megaterium*, indicating its potential use as a natural preservative in mango jam production [60].

Pickles are made mostly from green mangoes in India and are categorized as salty, oily, or sweet pickle based on the type of preservation used. They can be produced from peeled or unpeeled fruit with or without stones and with different kinds of proportions of spices.

5. Utilization of Mango Processing Waste

Mango processing and value addition generate an enormous amount of waste consisting of mainly the peels and the seeds, also known as stones [61,62,63]. Depending on the variety, 20–60% of the fruit weight comprises the seed while the kernel within the seed accounts for 45–75% of the seed's weight [64]. It has been reported that the mango seed is among the dominant agroindustrial wastes, generating about 123,000 metric tons of wastes annually in the world. Mango peels account for 7–24% of the fruit's weight [65,66]. Hence in general, mango processing generates millions of tons of solid waste approximated at 30–50% of the raw material. Furthermore, the volumes of mango processing waste are on the rise due to growth in the mango fruit production and processing industry [65]. The current standard waste disposal for industrial mango agro wastes and by products comprise of recovery (e.g., co product processing), recycling (e.g., internal upcycling of industrial side-streams into animal feeds or composting into manure), or solid waste disposal (e.g., into land fill or dried and incinerated as a source of energy) [66]. Food processing solid waste disposal has an adverse effect on the environment, such as water pollution, unpleasant odors, asphyxiation, vegetation damage, and greenhouse gas emissions. In addition, waste disposal is costly and adds to the total cost of production [67]. In addressing these challenges, there have been attempts to valorize the waste materials into value-added products.

The nutritional, physiochemical, and bioactive composition of mango seed and peels has been reviewed by Sharma et al., [68] and Mwaurah et al. [64]. There are some potential industrial applications of the value-added products derived from the seed and the peels as illustrated in **Figure 2**. The mango kernel contains about 15% of edible oil that is comparable to 18–20% oil content in soybeans and cotton seeds [64]. However, the oil from mango kernel comprises low free fatty acid and peroxide value and hence does not require further processing prior to consumption. Blending oil from mango kernel and palm oil in the ratio of 80:20 (w/w) produces an oil with palmitic, oleic, and stearic acids comparable to cocoa butter [64]. Oil from the mango kernel has been considered to be a novel, cheaper, and readily available alternative to cocoa butter due to its phytochemical and physicochemical properties. The seed kernel has also been demonstrated to have antimicrobial activity, probably

due to high content in different phenolic compounds, fatty acids, tocopherols, squalene, and sterols [67]. The mango kernel contains anti-nutritional factors and has to be preprocessed by dehulling, washing, soaking, boiling, and drying. The dried kernels can then be ground into flour and used as a functional ingredient in bakery products due to the presence of essential vitamins such as provitamin A and vitamin E and antioxidant activities [69].

Figure 2. Utilization of mango processing waste.

Mango peel is a major byproduct of the mango processing industry and it constitutes about 15–20% of the total weight of mango fruit. The peel has been found to be a good source of biologically active substances such as polyphenols, carotenoids, flavonoids, anthocyanins, dietary fiber, vitamin E, vitamin C, and enzymes and hence has a potential use as a functional food [18,70,71].

The peel has been demonstrated to have more polyphenols than the pulp, and has a potential use as a functional food that can be used to supplement various food formulations such as bakery products, ice cream, breakfast cereals, pasta products, beverages, and meat products. It can also be used as a replacement in products such as cream, cheese, and yogurt.

Mango peel has been demonstrated to be a substantive source of odor-active compounds, that could be revalorized and used directly as a flavoring ingredient or even as a natural source out of which volatile compounds could be extracted [72]. Both the extract and the peel byproduct itself would be feasible to be used in food and cosmetic industries to provide or enhance the mango aroma of the product [73,74,75,76].

Mango Seed Benefits

The most impressive benefits of mango seeds include their ability to treat dandruff, improve the appearance of [skin](#) & [hair](#), soothe digestion, prevent diabetic symptoms, and aid in [weight loss](#), among many others.

Skin Care

With its density of antioxidants and volatile compounds, mango seed is able to help improve the [appearance of the skin](#), reducing signs of inflammation, such as acne, particularly when the powdered form is topically applied to the affected area. It can also help reduce the appearance of wrinkles and [age spots](#). [3]

Hair Care & Dandruff

By making a hair mask with powdered mango seed and water, you can strengthen your hair follicles, particularly when you rub the paste into your scalp. This can also eliminate inflammatory conditions, such as dandruff.

Diabetes

As per a study published in the journal *Nutrition and Metabolic Insights* in 2014, [regular](#) supplementation with mango seed extract results in more blood [sugar](#) control, which is good for people with [diabetes](#) or those at risk for developing this condition. ^[4]

Inflammation

From your digestive system and chronic disease to hemorrhoids and symptoms of [gout](#), the anti-inflammatory [properties](#) of mango seed are well known, both traditionally and in modern times, and can provide a wide range of benefits. ^[5]

Cardiovascular Issues

Research has proven that extracts from mango seed are able to lower [overall cholesterol levels](#), while also stimulating the [metabolism](#) and promoting weight loss, all of which can improve overall cardiovascular health. ^[6]

RELATED: [19 Different Types Of Papaya Fruit \(With Photos\)](#)

5. Natural Beauty Products

Mango seeds contain antioxidants and moisturizing properties, making them a valuable ingredient in natural beauty products. You can make a DIY exfoliating scrub by grinding the seeds and mixing them with honey and coconut oil. This scrub will help rejuvenate your skin, leaving it smooth and glowing.

6. Animal Feed

Mango seeds can also serve as a nutritious treat for certain animals. Birds, squirrels, and even some livestock can enjoy the benefits of mango seeds. However, ensure that the seeds are properly prepared and do not contain any harmful substances or pesticides.

7. Mango Seed Oil

Mango seed oil is derived from the kernels of mango seeds. It is rich in antioxidants, vitamins, and fatty acids, making it a valuable addition to your skincare routine. This lightweight oil absorbs quickly into the skin, providing deep hydration and promoting a youthful glow. Massage a few drops of mango seed oil onto your face or body to nourish and rejuvenate your skin naturally.

Conclusion

Mango seed is far more than a leftover fruit remnant. It holds immense potential for growth, creativity, and culinary experimentation.

Whether you choose to plant and nurture a mango tree, create unique crafts, explore its culinary uses, or utilize it in natural beauty products, the mango seed offers a world of possibilities.

Well, the fully ripe mango seed (“gutli”) contains a kernel inside it that can be used to make “kernel flour,” as well as oil/butter. Antioxidants and other compounds [can be extracted](#) from this kernel, as well.

There are *so many* health benefits that have been attributed to mango seeds—but it’s not as clear how many of these benefits are real.

Here’s a list of some of the many *supposed* **mango seed benefits**:

- Decreasing dandruff
- Strengthening hair follicles for better hair health.
- Treating diarrhea
- Reducing hypertension and LDL cholesterol levels
- Preventing of heart disease.
- Treating type-2 diabetes.
- Weight loss
- Treating vaginitis and leukorrhea
- Improving digestion
- Removing acne, wrinkles, and age spots
- Reducing inflammation
- Relieving pain from bee or scorpion bites
- Treating anemia
- Treating scurvy
- Hydrating dry lips and skin
- Preventing cavities and strengthening gums

Mango seed is included in *all kinds* of cosmetics and personal care products. It’s added into weight loss supplements. And it’s even used as a mouth freshener for after meals in India: “*Mango seed mukhwas.*”

So there’s a lot of hype around these seeds and their butter, powder, and oil. But is it all just marketing hoopla?

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Type of Meal [Appetizer](#)[Baked](#)[Breakfast](#)[Brunch](#)[Chef Creation](#)[Dairy Free](#)[Dessert](#)[Dinner](#)[Drinks](#)[Drinks -](#)



[Mango Baked Brie](#)



[Mango Mochi](#)

Cook Time: 20 minutes



[Green Mango Layer Cake](#)



[Mango Malasadas](#)

