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Formulation of organic tonic for improving blood purification and gut health

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Abstract

The development of an organic tonic targeted at enhancing blood purification and intestinal. Health has received a lot of attention as people become more interested in natural and holistic approaches to wellbeing. This tonic is made with a combination of potent nutrients Such as beets, spinach, amla (Indian gooseberry), basil leaves, carrot, turmeric powder, and ginger. Each component in this mixture provides distinct health benefits. Antioxidants and other minerals found in spinach and beetroot aid in blood circulation and detoxification. Amla, which has a high vitamin C concentration, is a natural blood purifier and immune boosting agent. Carrots offer essential nutrients for healthy skin and digestion, while basil leaves have anti-inflammatory qualities. Curcumin, an ingredient in turmeric powder, has strong anti-inflammatory and antioxidant properties that enhance gut health and general wellbeing. Ginger improves nutrient absorption, lessens bloating, and facilitates digestion. An excellent complement to a healthy lifestyle, this organic tonic can be a natural cure that supports detoxification, digestive health, and blood purification. The high Antioxidant and nitrate content of beets, spinach, and amla, which aid in detoxification and Enhance blood flow, is responsible for the tonic's effectiveness in promoting blood purification. It is anticipated that the anti-inflammatory qualities of turmeric powder and Basil leaves will lessen intestinal inflammation and promote a healthy digestive system.

Keywords: Organic tonic, blood purification, gut health, beetroot, spinach, amla, basil leaves, carrot, turmeric powder, ginger

Introduction

The creation and use of organic tonics to improve blood purification and gut health has emerged as an important area of study in a world of natural health therapies. Organic tonics provide a possible alternative as the importance of maintaining a healthy gut flora and the role of blood purification in general wellness becomes more widely recognized. These tonics often contain a combination of organic components, such as detoxifying herbs, probiotics, and nutrient-dense fruits, which work together to improve the body's natural cleansing processes and digestive health. This study paper will look at the exact formulations of these organic tonics, focusing on the therapeutic benefits of essential constituents such as beetroot, basil, ginger, and turmeric [Alvarado, 2021] ^[1].

By investigating their mechanisms of action, prospective health advantages, and practical applications, this study hopes to emphasize the importance of organic tonics in blood purification and gut health, ultimately contributing to a holistic approach to wellbeing. Organic tonics are beverages made from natural, plant-based ingredients that are prized for their health benefits and refreshing characteristics. These tonics frequently contain a combination of herbs, roots, fruits, and spices known for medicinal properties. Tonics have been around for centuries of existence, with diverse civilizations using them to improve health, increase immunity, and promote the body's natural detoxifying processes. Organic tonics have become popular because of their capacity to harness nature's therapeutic power, resulting in a more comprehensive strategy to wellbeing. They are often free of artificial additives and preservatives, which aligns with the growing trend of organic and clean eating. Organic tonics, which focus on nutrient-dense ingredients, aim to nourish the human body, assist digestion, and boost overall vitality, making them a popular choice for individuals looking to improve their health naturally [Breen & Young, 2020] ^[2].

Organic tonics for blood purification and gut health are often made with a carefully chosen combination of substances recognized for detoxifying and digestive characteristics. Herbs such as beat root, known for its capacity to boost liver function and enhance bile formation, aid in the detoxification process, are frequently included as key components.

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Similarly, burdock root is commonly used because of its blood-purifying properties and ability to improve skin health by removing toxins.

In addition to these herbs, probiotics play an important role in gut health. The products of fermentation and particular probiotic varieties can help restore and maintain a healthy balance of gut bacteria, which is required for proper digestion and nutrient absorption. Spices such as ginger and turmeric are also often used due to their anti-inflammatory and antioxidant characteristics, which can benefit both gut health and general wellness. To prepare these tonics, herbs are commonly placed in water or blended with fruit juices to create a tasty beverage that retains the medicinal characteristics of the components. Organic tonics are gaining popularity for their possible health benefits and holistic approach to wellness. Organic tonics often contain vitamins, minerals, and antioxidants, which can help improve the immune system and fight inflammation. Green superfoods such as basil leaves and spinach are popular ingredients because they are high in nutrients and can boost energy levels [Change & Lee 2022] ^[3].

Furthermore, organic tonics are frequently utilized as natural treatments for a variety of diseases. Ginger and turmeric, for example, could potentially help with digestive difficulties and inflammation, whilst lemon and apple cider vinegar can promote metabolic health and cleansing. Organic tonics are also becoming more popular as consumers become more cognizant of their health and wellness. People are increasingly looking for natural alternatives to processed beverages, ones that benefit their health without the negative impacts of artificial additives. In order to summarize, organic tonics combine traditional and current wellness methods, providing a tasty and health-promoting solution for people wishing to improve their overall well-being. They demonstrate that nature can provide effective answers for health and vitality. Organic tonics have become popular in recent years as a natural way to improve health and well-being. These beverages, made from a variety of organic herbs, roots, and fruits, are intended to deliver a number of health benefits, including improved digestion, immunity, and energy levels. Unlike traditional tonics, which may contain artificial additives and preservatives, organic tonics promote the use of chemical-free, sustainably produced ingredients, that occur with rising buyer preferences for healthier, more ecologically responsible alternatives [Davis, 2019] ^[4].

This research study will investigate the formulation, benefits, and prospective applications of organic tonics, radiating light on their role in supporting holistic health and wellness in today's culture. This study will show how organic tonics can be beneficial alternatives to typical health supplements, contributing to a more natural and balanced lifestyle, by doing a thorough analysis of existing literature and case studies. According to research, regular consumption of these organic tonics may result in improved digestion, increased nutrient absorption, and a more efficient detoxification process, all of which contribute to better blood purification and intestinal health. This paper will look at different formulations and their distinct health benefits, as well as the scientific evidence that supports the usefulness of these organic tonics. The study's goal is to provide insights into how these natural medicines might be effectively integrated into everyday health regimens by investigating the interactions between the substances and their health-promoting properties [Robinson, 2020] ^[6].

Definition

An organic tonic is a natural substance or preparation obtained from organic sources, such as plants or herbs, and

aimed at enhancing the quality of life. Organic tonics are usually free of synthetic chemicals, pesticides, and artificial ingredients. They are frequently used to boost youthfulness, increase energy, strengthen the immune system, and promote mental and physical health. Organic tonics can take many forms, such as herbal teas, tinctures, syrups, or powders, and may contain a variety of vitamins, minerals, antioxidants, and other helpful substances. The use of organic components means that the tonic is prepared from plants that have been farmed sustainably, which can help you live a better life [Stewart & Becker, 2018] ^[7].

Types of organic tonic

1. Herbal Tonic
2. Fermented Tonic
3. Detox Tonic
4. Energy Tonic

1. **Herbal Tonics:** These are produced from a range of herbs, including the extract of e ginger, and the extract. They can provide unique health benefits such as reduced inflammation, improved sleep, and more energy.
2. **Fermented Tonics:** the fermented tea and other fermented beverages include probiotics that promote gut health. They can improve digestion and strengthen the immune system.
3. **Detox Tonics:** Typically mixed with lemon, ginger, and activated charcoal, these tonics assist the body remove toxins and enhance liver function.
4. **Energy Tonics:** Matched, spirulina, and macaw root are frequently used to deliver a natural energy boost without the nervousness caused by caffeine.

Blood purification

The act of eliminating waste materials and toxic compounds from the bloodstream is called blood purification, sometimes referred to as blood cleansing or detoxification. Either the body's natural systems or artificial treatments like dialysis can accomplish this. The liver and kidneys are the main organs in charge of filtering and purifying blood. The kidneys filter extra water and electrolytes, while the liver breaks down waste materials and poisons. "Blood purification is the process of eliminating toxins, waste products, and hazardous chemicals from the blood, usually by medical methods when the body's natural filtration systems failed." Blood purification is a healthcare procedure that removes toxins and waste products from the blood, particularly when the body's natural filtering systems, such as the kidneys and liver, do not function properly. Dialysis, which is used to treat kidney failure, and plasmapheresis, which targets damaging antibodies in autoimmune illnesses, are two common treatments. These procedures serve to improve patient health and treat numerous medical diseases by keeping the blood clean and free of hazardous toxins [Hirasawa & *et al.*, 2000] ^[15]

Patients with multiple organ failure have frequently used blood purification as an artificial support, such as an artificial liver or kidney. Blood purification can now be applied continuously (i.e., twenty-four hours a day, seven days a week, if required) even to severely ill patients, such as MOF patients with renal and hepatic failure, thanks to recent developments in medical engineering. These blood purification techniques are known as continuous blood purification (CBP) or continuous renal replacement therapy (CRRT). Patients with MOF have recently been treated with this therapy in the expectation that blood purification will aid

in the treatment or prevention of MOF and that it will be just as successful as an artificial kidney or liver. The effectiveness of CBP, including direct hemoperfusion with endotoxin adsorption columns and continuous hemodiafiltration (CHDF), for the prevention or treatment of MOF is reviewed in this research [Hirasawa, 2010] ^[16].

Process of blood purification

Blood purification is a multi-step process that is mostly employed when the body's natural filtration systems aren't working correctly. Here is an overview of the primary procedures.

1. Dialysis: a) Hemodialysis b) Peritoneal dialysis
2. Plasmapheresis
3. Hemoperfusion
4. Liver Dialysis

1. Dialysis

Dialysis is a medical process that removes waste products, extra fluids, and toxins from the blood when the kidneys are unable to work properly. There are two forms of dialysis.

- a. **Hemodialysis:** This procedure includes utilizing a machine to filter blood outside of the body. Blood is collected from the patient, processed through a device called (artificial kidney) to eliminate waste and excess fluid, and returned to the body.
- b. **Peritoneal dialysis:** This approach involves inserting a specific fluid into the abdominal cavity via a catheter. The fluid collects waste items from the blood through the peritoneal membrane before draining and being replenished with fresh fluid.

2. Plasmapheresis

Plasmapheresis is a medical technique that separates and removes plasma from the bloodstream. Plasma, the liquid component of blood, comprises water, electrolytes, proteins, hormones, and waste products.

Plasmapheresis involves drawing blood from a patient and passing it through a machine that separates the plasma from the blood cells. The plasma, which may contain hazardous chemicals such as antibodies or poisons, is often removed and replaced with a substitute solution or new plasma. This procedure is often used to treat autoimmune illnesses, neurological issues, and to eliminate poisons in poisoning instances. It improves patient health by lowering the concentration of toxic chemicals in the blood.

3. Hemoperfusion

Hemoperfusion is a medical treatment that removes toxins, medications, and other harmful pollutants from the blood. During this procedure, blood is run through a device containing adsorbent materials, such as activated charcoal or resin, which adhere to and capture undesirable particles. The purified blood is afterward reintroduced to the patient's body. Hemoperfusion is especially effective in cases of drug overdose, poisoning, or some types of renal failure since it helps to efficiently clear dangerous chemicals from the bloodstream, improving the patient's condition.

4. Liver Dialysis

Liver dialysis, which is additionally known as extracorporeal liver support or liver assist devices, is a medical procedure that aims to maintain or replace the liver's function in patients with acute liver failure or severe liver dysfunction. Unlike standard dialysis, which is primarily used to maintain kidney

function, liver dialysis focuses on removing toxins and metabolic waste products that accumulate as a result of liver failure.

A molecular adsorbent recirculating system (MARS) is a commonly used device for liver dialysis. This system uses a dialyzer to filter the blood, removing toxins like bilirubin and ammonia while also enabling albumin and other essential proteins to exchange. The purpose of liver dialysis is to stabilize the patient and maybe give the liver time to recover, or to bridge them to a liver transplant if necessary [Nakada & *et al.*, 2006] ^[17].

Why blood purification is important?

Blood purification is required for a variety of reasons, among the most crucial of which are overall health and illness prevention. Here are some important points:

1. **Toxin Removal:** The body's metabolic activities produce waste products and toxins, which are transported by blood. Purification aids in the removal of toxic substances that would otherwise accumulate and cause health problems.
2. **Electrolyte regulations:** The blood includes a variety of electrolytes (such as sodium, potassium, and calcium) that are necessary for many body activities. Blood purification aids in the maintenance of the right balance of these electrolytes, which is critical for neuronal function, muscular contraction, and hydration.
3. **Support for Kidney Function:** The kidneys filter blood and remove waste. When blood purification fails to function properly, it can result in kidney damage and chronic renal disease. Regular cleansing can improve kidney health.
4. **Immune System Support:** Blood contains immune cells, which assist the body fight infections. Purifying the blood can help the immune system work more efficiently by ensuring that these cells are working properly and that no toxic elements are interfering with their activity.
5. **Overall, Health Maintenance:** Proper blood purification promotes increased circulation, oxygen transport, and metabolic efficiency. This can lead to increased energy, improved organ function, and general health [Hirasawa, 2010] ^[16].

Gut health

The term "gut health" is frequently utilized in medical literature and the food business. A strong immune system, effective digestion, nutritional absorption, and even mental and physical health can all be influenced by a healthy gut. It addresses a variety of beneficial elements of the Gastrointestinal (GI) tract, including efficient food digestion and absorption, the absence of GI sickness, normal and stable intestinal microbiota, a functional immune system, and a sense of well-being. The gut, also known as the "second brain," is extremely important for overall health and well-being. It is home to trillions of microorganisms known as the gut microbiota, which influence a wide range of physiological functions such as digestion, immunological function, and even mental health. Recent research has demonstrated the complex association between gut health and a variety of health issues, including obesity, diabetes, and inflammatory bowel disease. [Smith & Brown, 2022] ^[18].

Gut health refers to the entire state and function of the gastrointestinal tract, includes the stomach and intestine. It comprises the gut microbiota's balance and variety, digestion and nutrient absorption efficiency, and gut lining integrity. A

healthy gut is defined by a well-functioning digestive system, minimal discomfort, and a balanced microbiota that promotes immune function and overall health. It is essential for a variety of body functions, including digestion, metabolism, and even mental health [Miller, 2021] ^[20].

Gut wellness refers to the overall well-being of the gastrointestinal tract, which includes the stomach and intestine. Here are some key characteristics of intestinal health

1. **Microbiota Diversity:** The gut supports a varied variety of bacteria, fungus, and other microorganisms. A fluctuated microbiota is generally connected with improved health because it aids digestion, nutrition absorption, and immunological function.
2. **Digestive Function:** A healthy gut is necessary for proper digestion. It digests food, absorbs nutrients, and removes waste. Abdominal discomfort gas, and irregular bowel motions may signal gut health concerns.
3. **Immune System:** The gastrointestinal tract contains around 70% of the immune system. A healthy gut microbiota regulates immune responses and protects against infections. An imbalance could bring about increased inflammation and susceptibility to infection [Robinson & Clark, 2019] ^[23]
4. **Mental Health Connection:** There is a strong link between gut health and mental health, known as the gut-brain axis. Gut bacteria create neurotransmitters and other compounds that can alter mood and cognitive function, implying that gut health may play a role in disorders such as anxiety and depression.
5. **Dietary Influence:** Your diet has a huge impact on your gut health. High-fibre foods, fruits, vegetables, and fermented foods all promote a healthy microbiome, but processed foods, high sugar, and low-fibre diets can be detrimental to gut health.
6. **Probiotics and prebiotics:** Probiotics are live healthy bacteria, whereas prebiotics are indigestible sugars that nourish these bacteria. Including both in your diet can help preserve or rebuild your intestinal health [Turner & Harrison, 2023] ^[21].

Ingredient for blood purification and healthy gut

The following herbs are used to make herbal tonics to Promote intestinal health and blood purification.

1. Beetroot
2. Spinach
3. Carrot
4. Ginger
5. Basil
6. Gooseberry
7. Turmeric

Beetroot

Beetroot is elevated in antioxidants and minerals, including potassium, magnesium, betalaine, vitamin C, and salt. It comes in various colours, from yellow to crimson in the root. Beetroots, known for their deep red colour, are commonly consumed raw or cooked in salads and juices. Beets contain many active compounds, including carotenoids, saponins, betacyanin's, betanin, polyphenols, and flavonoids. Beets are commonly cultivated for pickling, salads, and juice. Betalains, which give beet roots their deep red colour, are used as natural colorants in the food industry and are garnering attention for their possible health benefits in humans,

including antioxidant and anti-inflammatory effects. Beetroot is widely grown in Haryana, Himachal Pradesh, and other states. [Ashish, 2014] ^[8].

Among the many health advantages of beets are their anti-inflammatory, blood pressure-regulating, and enhanced athletic performance. Beetroot contains the most common betalains: betacyanin's and betaxanthins. Betalains are a dietary supplement used to prevent and treat hypertension and cardiovascular diseases. They exhibit antibacterial and antiviral activities, as well as the ability to inhibit cell proliferation in human cancer cells. Osmotic dehydration can produce beetroot powder for use in bread, confectionary. Consuming two cups of beetroot juice can reduce blood pressure within 60 minutes, with a peak reduction occurring 3-4 hours later. Consuming juice reduced blood pressure for up to 24 hours.

Mechanisms of Action

Nitrate Beetroot includes nitrate, which can decrease blood pressure, hyperglycaemia, and cholesterol. Nitrate-rich meals, such as beetroot juice, can also boost blood flow to the brain, perhaps improving cognitive function. Betalains Beetroot includes betalains, which can help reduce oxidative stress, protect DNA, and lower LDL. Succinic acid. Beetroot includes succinic acid, which aids in angiogenesis and blood pressure management. Antioxidants Beetroot includes antioxidants, which can aid to reduce inflammation and oxidative damage [Hobbs & *et al.*, 2012] ^[26].

Historical uses

Beetroot is still a staple, whether roasted, pickled, or cooked in soups and stews. Beetroot's vivid red hue has been used to dye fabrics and as a food colouring. Beetroot has been used in traditional medicine to treat a variety of diseases, including blood cleansing and digestive difficulties. Beetroot was once utilized as a source of sugar before cane sugar became widely available. Beetroot was utilized to feed livestock, notably pigs, due to its nutritious content [Clifford & *et al.*, 2015] ^[27].

Chemical constituents

Betalains: These pigments give beetroot its unique red colour. They have antioxidant and anti-inflammatory effects. **Nitrates:** Beetroot contains a high concentration of nitrates, which the body converts into nitric oxide. Nitric oxide helps to widen blood vessels, increasing blood flow and reducing blood pressure. **Fiber:** Beetroot contains dietary fibre, which is good for digestion and regularity. **Minerals:** Beetroot contains potassium, magnesium, iron, and phosphorus [Raiko's & *et al.*, 2016] ^[28].



Fig 1: Beetroot

Spinach

Spinach, traditionally referred to as *Spinacia oleracea*, is a leafy green vegetable from the amaranth family. It originated in Central Asia and has been farmed for thousands of years. Spinach is a wholesome stronghold, containing an abundance of important vitamins and minerals. It contains high levels of vitamins A, C, and K, as well as iron, folate, and magnesium. The capacity for adaptation of spinach goes beyond its nutritional value. It can be consumed in a variety of forms, including raw, cooked, and processed. It is a popular component in salads, soups, stews, and other foods, bringing flavour and a brilliant green colour. Spinach can also be used to make smoothies, and spreads, increasing its culinary versatility. Spinach has been shown to help with constipation (Kumar *et al.*, 2013) [63], dyspepsia (chronic indigestion), anemia (Bassey & Khan, 2015) [64], neuritis, nerve weariness, tumors, insomnia, arthritis, obesity, high blood pressure, and bronchitis. According to Joseph (1975) [65], it has been effective in treating renal, bladder, and liver diseases [Sridhar, 2013] [9].

According to Hanif *et al.* (2006) [66], spinach is a rich source of iron. Spinach includes choline and inositol, which can help prevent arteriosclerosis (Kar & Borthakur, 2008) [67]. Spinach contains Vitamin K, which promotes blood coagulation (Robinson, 2020) [6]. Spinach has been found to protect the central nervous system, reduce inflammation, and delay aging by protecting cells. Overall, spinach is a nutritious and adaptable vegetable with a variety of health advantages and uses in food preparation. Its long history, great nutritional profile, and versatility have made it a popular ingredient in kitchens around the world [Rao & Bansal, 2022] [29].

Mechanisms of Action

Spinach contains antioxidants, including lutein, zeaxanthin, and vitamin C, which neutralize free radicals and prevent oxidative stress in the body. Spinach contains dietary nitrate, which can be converted to nitric oxide, leading to vasodilation and perhaps decreasing blood pressure. Spinach phytochemicals seemed shown to modulate gene expression, potentially affecting metabolism, inflammation, and antioxidant defence mechanisms. Spinach's anti-inflammatory qualities may help reduce inflammation throughout the body. Spinach contains dietary fibre, which can improve digestive health by regulating bowel movements and increasing satiety [Smith & Lee, 2018] [30].

Historical uses

Spinach was referenced in a few ancient Persian and Arabic medical writings, but its exact medicinal effects were not well recorded. It was most likely utilized to promote overall health and well-being rather than specific diseases. Medieval Europe: Spinach was occasionally utilized as an antiseptic for wounds and skin diseases, but its medical properties were overtaken by other herbs and plants with more established uses. Spinach became an important component in American diets throughout the 18th century, thanks to the production of cookbooks containing spinach recipes. Spinach's popularity grew over the nineteenth and twentieth centuries, eventually becoming a widely consumed vegetable in many nations throughout the world [Kumar & *et al.*, 2020] [31].

Chemical constituents

Vitamins: Spinach contains high levels of vitamin K, vitamin A (in the form of beta-carotene), vitamin C, folate, and vitamin E. **Minerals:** Spinach carries iron, magnesium,

potassium, calcium, and manganese. **Antioxidants:** Spinach involves several types of antioxidants, involving flavonoids, carotenoids, and phenolic acids. These chemicals protect cells from free radical damage. **Phytonutrients:** Spinach include phytonutrients such as nitrates, lutein, and zeaxanthin. These chemicals have been linked to a variety of health benefits, including better blood pressure and eye health [Miller & Alis, 2019] [33].



Fig 2: Spinach

Carrot

Carrots, a colourful root vegetable, have always been known for their nutritional significance. Aside from their culinary usage, carrots have interesting medical applications. While carrots are not a cure-all, their high concentration of vitamins, minerals, and antioxidants captured scientific curiosity in their medicinal capabilities. According to research, the bioactive chemicals found in carrots may help prevent and manage a variety of health disorders. The carrot's potential in medical therapy is a promising area of continuing research, ranging from supporting eye health and increasing immunity to aiding in cancer prevention and diabetic management. As scientists continue to uncover the carrot's secrets, its function in promoting wellbeing and aiding medical interventions may become even more important.

Carrots are rich in bioactive chemicals such as carotenoids and dietary fibre, as well as other functional components with health-promoting characteristics. Carrot pomace, which contains around 50% β -carotene, can be used to enrich items such as cakes, pastry, and bread, as well as to create functional products. Carotenoids are a crucial micronutrient for human health (Castermiller and West 1998). Carrot roots contain 6,000 to 54,800 μg of carotenoids per 100 g, according to Simon and Wolff (1987). Carrots' biological and therapeutic benefits may be due to their high concentration of antioxidant carotenoids, particularly β -carotene. Carrots have been shown to have diuretic, N-balancing qualities, and help eliminate uric acid (Anon 1952) [Branca *et al.*, 2001] [12].

Mechanisms of Action

Carrots are high in antioxidants, including beta-carotene, vitamin C, and flavonoids. These antioxidants fight free radicals, which are unstable chemicals that can harm cells and promote disease development. Antioxidants protect cells and lower the risk of chronic diseases by neutralizing free radicals. Certain chemicals found in carrots, such as falcarinol and falcarindiol, have anti-inflammatory properties. Inflammation is a normal immune reaction, but persistent inflammation can lead to a variety of illnesses, including heart disease, cancer, and arthritis.

Carrots may help control these problems because they reduce inflammation. Fiber adds weight to stool, promoting regular bowel motions and reducing constipation. It also regulates A, which is necessary for keeping good vision. Vitamin A promotes the formation of rhodopsin, a light-sensitive pigment in the retina that allows vision in low light [Smith & Thompson, 2021] ^[36].

Historical uses

Carrots were used as a diuretic and digestive aid in ancient Greece and Rome. They were also valued in Traditional Chinese Medicine for their ability to improve blood circulation, reduce inflammation, and support the liver. In Medieval Europe, carrots were used to treat skin conditions, eye problems, and respiratory ailments. In the 17th and 18th centuries, carrots were recognized as a source of vitamin A for treating night blindness.

Chemical constituents

Carotenoids are the pigments that give carrots their bright orange colour. The most prevalent pigment in carrots is beta-carotene, which the body converts into vitamin A. Other carotenoids found include zeaxanthin, lutein, and alpha-carotene. Carrots are rich in vitamins A (from beta-carotene), K, C, and B6, as well as minerals including potassium, phosphorus, magnesium, and calcium. Carrots contain dietary fibre, both soluble and insoluble [Smith & *et al.*, 2021] ^[36].

Polyethylene's: These chemical molecules possess anti-inflammatory and anti-cancer effects. Falcarinol and falcarindiol are two prominent polyacetylenes found in carrots. Flavonoids: These antioxidants may protect cells from damage and inflammation. Carrots contain several flavonoids, such as quercetin, kaempferol, and apigenin. The particular makeup of these chemical elements varies according to the carrot variety, growth conditions, and storage procedures.



Fig 3: Carrot

Ginger

Ginger (*Zingiber officinale* Roscoe) belongs to the Zingiberaceae family of plants. Ginger and its bioactive compounds may help alleviate several health issues. For ages, it has been used in Asia, India, Europe, and the Middle East to cure many ailments including arthritis, stomach distress, asthma, diabetes, and menstrual irregularities. Ginger has scientific support for reducing nausea and vomiting after pregnancy, surgery, cancer therapy, or motion sickness. Ginger is native to Southeast Asia, but it is currently grown in many tropical areas. It's a versatile item that can be utilized fresh, dried, powdered, or in an oil. Ginger is commonly used in stir-fries, curries, and soups, as well as in baked goods and beverages. Aside from its culinary purposes, ginger is known for its possible health advantages, which include nausea

reduction, muscle soreness relief, and digestion aid. Ginger exhibits antioxidant effects, as demonstrated in cell culture research. The bioavailability of ginger antioxidants in humans and their potential impact on oxidative stress markers *in vivo* remain unknown. While preliminary data suggests ginger has antibacterial properties, there is limited evidence to support its practical utility in treating human infections. Ginger may improve cardiovascular health by reducing inflammation, hyperlipidemia, platelet aggregation, and hypertension, as evidenced by animal and *in vitro* studies. Ginger's biological activity is influenced by both the chemical composition of the product and the metabolism of its phytochemicals [Ali & *et al.*, 2008] ^[14].

Mechanisms of Action

Ginger lowers inflammation by decreasing the activation of TNF- α and cyclooxygenase-2. Ginger prevents macrophage and neutrophil activation. Ginger reduces proinflammatory cytokines and chemokines. Ginger restores complete antioxidant capability. Ginger extract has antiemetic actions in both the gastrointestinal and central neurological systems. It also inhibits serotonergic and 5-HT₃ receptors. Ginger stimulates vasodilation, which reduces blood pressure. Blood lipid profile Ginger inhibits cholesterol formation, which modulates the blood lipid profile. Gingerols and shogaols reduce the formation of inflammatory mediators including prostaglandins and leukotrienes, which cause pain, swelling, and redness. Ginger contains antioxidants that protect cells from free radical damage, which can lead to chronic diseases. It also has gastroprotective properties, protecting the stomach lining from irritants like alcohol and NSAIDs. Ginger has been shown to help lessen nausea and vomiting, presumably by influencing the brain's vomiting area [Singh & Kumar, 2021] ^[48].

Historical use

Ginger has been used for therapeutic purposes for thousands of years, with archaeological evidence extending back to ancient civilizations. Ginger was utilized in traditional Chinese medicine to cure a variety of diseases, such as nausea, indigestion, and respiratory issues. Ancient Indian traditions, such as the Ayurveda, reference ginger's therapeutic benefits, emphasizing its usage in the treatment of inflammation, pain, and digestive disorders. Ginger has a long history as a seasickness treatment, having been used by ancient seafarers to alleviate nausea during long voyages. Ginger can be used to treat nausea, vomiting, indigestion, and upper respiratory tract infections. For more than 2,000 years, ginger has been used in China to cure stomach discomfort, diarrhoea, and nausea. Ginger is utilized in ancient Ayurvedic medicine to treat a wide range of ailments. [Patel & Sharma, 2019] ^[39, 40].

Chemical constituents

Ginger's therapeutic benefits are linked to its many chemical components, particularly: Gingerols: These pungent molecules give ginger its distinct flavour and are responsible for the anti-inflammatory and analgesic properties. Shogaols: When ginger is dried or roasted, it produces chemicals that are more potent than gingerols for anti-inflammatory activity. Zingerone: This molecule contributes to ginger's scent and has antioxidant properties. Other chemicals: Ginger contains essential oils, flavonoids, and other bioactive chemicals that enhance its overall health benefits [Jones & Patel, 2020] ^[44, 46].



Fig 4: Ginger

Basil

Basil (*Ocimum basilicum* L.) is a vital crop, medicinal plant, and culinary herb from the Lamiaceae family. It grows in tropical and subtropical climates. Its essential oil is used in general health, dental products, and the fragrance and food industries. Basilicum belongs to the genus *Ocimum*, family Lamiaceae, order Lamiales, class Magnolipsida, phylum Magnolipsida, and kingdom Plantae. The germination rate in laboratory experiments is 95-98%, but in outdoor conditions it is around 10-15%. A basil plant's anatomy includes (a) the main stem, (b) the node, (c) the internode, (d) the dominant growing tip, (e) future stem growth, and (f) the leaves. Basil is known as the goddess Tulsi in some regions of Asia, and is a traditional medicine in India. The plant has traditionally been used in the food sector as a flavouring agent, as well as in dentistry and fragrance products. This herb is widely cultivated in Iran and used as both a vegetable and medicinal medicine. In traditional medicine, the seeds are used in Asian beverages and pastries to provide nutritional fibre.

It is also used to treat coughs, headaches, wounds, diarrhoea, and skin infections. Basil leaves include vital nutrients such as alkaloids, tannins, flavonoids, and saponins. Basil essential oil contains anti-oxidants, anti-inflammatory, and anti-microbial properties. Basil contains diuretic, antipyretic, antispasmodic, and stomachic properties. Basil seed mucilage has numerous advantages, including hydrophilicity, compatibility, low production cost, appropriate film formation, edibility, and viscoelastic properties. Basil polysaccharides have anti-tumour, anti-oxidant, and anti-aging properties, as well as anti-bacterial and anti-aging properties, as well as anti-bacterial and anti-arthritis benefits. They also improve immunity and can be used to treat diabetes [Patel & Kumar, 2020] [44, 46].

Mechanisms of Action

It has been used to treat a variety of diseases, including anxiety, pyrexia, infections, arthritis stings, stomach aches, coughs, headaches, and constipation. It also has anti-spasmodic and anti-diabetic properties, as well as anti-bacterial, anti-fungal, and anti-oxidant properties. Eugenol has significant therapeutic properties, including anti-fungal, nematocidal, and anti-bacterial activities against harmful bacteria. Basil leaf extract can lower blood glucose and advanced glycation end products in diabetic rats. Basil leaves are used as an antispasmodic, radicals and protecting cells from injury. Anti-inflammatory: Tulsi may lower inflammation via altering genes. Tulsi exhibits broad-spectrum antibacterial action against a variety of infections.

Anti-stress: Tulsi is anxiolytic and antidepressant. Tulsi has antidiabetic properties. Tulsi has immunomodulatory actions through γ -aminobutyric acid pathways [Hussain & Ahmad, 2018] [45].

Historical uses

Some historical uses of tulsi, also called holy basil, include: Ayurveda: In the traditional Indian medical system, tulsi has been used for centuries to treat a variety of ailments, including respiratory infections, digestive problems, skin conditions, stress, and anxiety. In ancient India, tulsi was regarded as a sacred plant and used for both medicinal and spiritual purposes. Religious Practices: additionally, it was employed in a number of religious rites and ceremonies. Folk Medicine: Tulasi has been used in Southeast Asian folk medicine to cure a number of illnesses, such as headaches, stomach issues, and fevers. Culinary Use: Tulsi leaves are frequently used in Indian cooking to give food a distinctive flavour and scent [Patel & *et al.*, 2020] [44, 46].

Chemical constituents

Among the several chemical components found in tulsi (*Ocimum sanctum*) are: Phenols Phenols, which are secondary metabolites, are abundant in tulsi leaves. Flavonoids: Flavonoids are secondary metabolites found in tulsi. The essential oil of tulsi leaves contains eugenol, a phenyl propanoid that is present in tulsi. Linalool: Linalool is an active chemical found in tulsi. Tulsi contains carvacrol, a phytochemical, rosmarinic acid, oleanolic acid, ursolic acid, and β -caryophyllene.



Fig 5: Basil (Tulsi leaves)

Gooseberry

Amla is a significant medicinal plant that is also known as Indian Gooseberry in English. The Sanskrit term "amlaki," which meaning "the sustainer" or "prosperity," is the root of the English word "amla." Compared to an orange, the fruit pulp of an Amla has 20 times more vitamin C. For ages, the tiny, sour fruit known as amla, or Indian gooseberry, has been a mainstay of Ayurvedic therapy. It is a common component of both contemporary health supplements and traditional treatments because of its abundance of nutrients, which include vitamins C, antioxidants, and minerals. Native to Southeast Asia and India, the fruit has long been used in traditional medicine. Amla is well-known for having strong antioxidant qualities that shield cells from harm brought on by free radicals. Additionally, it has a lot of vitamin C, which is necessary for wound healing, collagen synthesis, and immune system activity.

Other names for amla include Indian gooseberry, amalaki, and myrobalan. Its scientific name is *Emblica officinalis*. Visual Characteristics: Round, little fruit with brown, yellow, or green skin Sour and tart in flavour Vitamin C, antioxidants, minerals (iron, calcium, and phosphorus), and fibre is abundant in this nutritional profile. Amalaki gives the body a healthy dose of nutrients, particularly vitamin C, and lowers free radicals. The Indian gooseberry is a fantastic fruit and one of nature's most priceless gifts to humanity. In India and the Middle East, it has long been utilized as a beneficial component of numerous medications [Chauhan & Kaur, 2016]^[51]

Mechanisms of Action

The main benefits of gooseberry, also called Indian gooseberry or "amla," include its strong antioxidant qualities, which can prevent damage from free radicals, as well as its anti-inflammatory and cell cycle regulation-modifying effects and possible interference with oncogenic signaling pathways, which may contribute to its anti-cancer, hepatoprotective, and cardioprotective effects. These benefits are largely ascribed to the polyphenols it contains, which include gallic acid, ellagic acid, and tannins. High concentrations of vitamin C and other antioxidants found in gooseberries can counteract free radicals, shielding cells from oxidative stress and possible harm to DNA and other cellular constituents. Research indicates that gooseberry extracts may stop the synthesis of pro-inflammatory cytokines, hence explaining their possible anti-inflammatory effects. By preventing cell division and encouraging apoptosis (programmed cell death) in cancer cells, gooseberry extracts may have an impact on the cell cycle. According to research, gooseberry may reduce the formation of tumors by interfering with certain signaling pathways, such as the Wnt/ β -catenin pathway, which is essential for cell growth and differentiation. Phase II detoxifying enzymes, which aid in the body's removal of toxic chemicals, may be activated more by gooseberry [Singh & Jilani, 2013]^[52]

Historical uses

For millennia, gooseberries have been utilized in traditional medicine, especially in Asia and Europe. They were thought to have a number of therapeutic uses, including as the treatment of skin disorders, inflammation, and digestive problems. Amla, another name for gooseberry, has numerous applications in hair care, culinary, and wellness. According to Mukherjee (1983), amla is beneficial for jaundice, piles, indigestion, coughing, and blurred eyesight. According to Sivananda S. (1999), the fresh fruit has laxative and diuretic properties. According to reports, amla exhibits hepatoprotective, hypolipidemic, purgative, antibacterial, spasmolytic, hypoglycemic, and purgative properties [Gulati & Mahajan, 2015]^[54].

Chemical constituents

The most prevalent ingredient in gooseberries, vitamin C (ascorbic acid), is what gives them their antioxidant qualities. Ellagitannins: Substances with possible health advantages, such as emblicanin A and B, which add to the slightly bitter flavour. Flavonoids, kaempferol, gallic acid, and ellagic acid are examples of polyphenols, which have anti-inflammatory and antioxidant qualities. Fiber: Offers dietary fibre to support healthy digestion. Minerals: Moderate amounts of calcium, iron, and phosphorus [Dey & Kundu, 2018]^[55].



Fig 6: Gooseberry (Amla)

Turmeric

Originating in South East Asia, turmeric has been used as a condiment and dye since ancient times. Bengal, China, Taiwan, Sri Lanka, and Java are the main places where it is grown. Peru, West Indies and Australia. Because it is inexpensive, natural, and unsynthesized, it is still utilized in Hindu religious rites and as a dye for sacred garments. Although turmeric is a common Middle Eastern spice, not many people are aware of its therapeutic benefits. *Curcuma longa*, often known as turmeric, belongs to the Zingiberaceae family of ginger. The Latin name, "kirkum," is derived from the Persian word "saffron," referring to the vivid yellow-orange hue of the rhizome. Although it is native to Southeast Asia, India has long utilized and grown it. In the jungles of Southern Asia, including India, Indonesia, Indochina, neighboring Asian nations, and several Pacific Islands, including Hawaii, turmeric (*Curcuma longa*) and numerous other species of the curcuma genus grow wild. Since prehistoric times, all of these regions have been used for culinary and therapeutic purposes [Nirmala & Sivakumar, 2021]^[56].

Turmeric is regarded as warming and fortifying the entire body in the Indian In India, it has long been used for a variety of purposes, such as helping in digestion, enhancing intestinal flora, getting rid of worms, relieving gas, cleansing and strengthening the liver and gallbladder, restoring menstruation, reducing arthritis and swelling, acting as a blood purifier, warming and promoting proper metabolism, correcting excesses and deficiencies, treating sprains, burns, cuts, bruises, insect bites, and itching locally, relieving cough and asthma, acting as an antibacterial and antifungal, and treating any condition involving weakness or debility At the same time, honey and turmeric juice should be taken orally. Almost all of the world's turmeric is produced in India, which also uses 80% of it. Because of its effects on the liver and digestive system, turmeric is quite useful. It is regarded as a bitter digestive and a carminative in both traditional Chinese medicine and Ayurveda. In order to promote blood circulation, Unani practitioners utilize it to clear out phlegm or kapha and open up the blood vessels. To enhance digestion and lessen gas and bloating, it can be added to foods like rice and bean dishes. The main curcuminoid found in turmeric is curcumin, which is most well-known for its anti-inflammatory properties. Bromelain, a protein-digesting enzyme present in pineapple, is occasionally added to its formulation to improve absorption and strengthen its anti-inflammatory properties. Twenty minutes before meals or in between meals, this combination should be taken On an empty stomach. Studies on both humans and animals have demonstrated that curcumin

reduces swelling and inflammation in rheumatoid arthritis and osteoarthritis just as well as hydrocortisone or phenylbutazone, two non-steroidal anti-inflammatory drugs (NSAIDs), with fewer side effects. For inflammatory diseases, 400-600 mg of curcumin three times a day is the suggested dosage [Zhang & Wei, 2019] ^[57].

Mechanisms of Action

Curcumin suppresses transcription factors and cytokines involved in inflammation. Curcumin inhibits the production of pro-inflammatory cytokines, including TNF α , IL-1 β , and MCP-1. Curcumin reduces the synthesis of CCL2, a protein which draws monocytes to inflammatory areas. Antioxidant characteristics. Curcumin scavenges reactive oxygen species such as superoxide, hydrogen peroxide, and nitric oxide radicals. Anticancer qualities. Curcumin suppresses the STAT3 and NF- κ B signaling pathways, which contribute to the development of cancer, are inhibited by curcumin. Curcumin can encourage cancer cells to undergo apoptosis. Curcumin can cause cancer cells to undergo autophagy. Neuroprotective qualities. Curcumin prevents activated microglia and astrocytes from producing prostaglandins and inflammatory cytokines. Curcumin inhibits microglial and astrocyte cells' synthesis of TNF α , IL-1 β , and MCP-1 [Rehmani & *et al.*, 2018] ^[58].

Historical uses

Ayurvedic medicine, or traditional Indian medicine, has traditionally used turmeric. Inflammation, infections, and digestive issues were among the many conditions it was used to treat. It was also thought that turmeric had antioxidant and anti-inflammatory qualities. In addition, turmeric was utilized as a natural dye and to treat skin disorders and wounds. In ancient India, it was thought to have religious and spiritual importance. Turmeric has long been employed in Eastern Asian medicinal systems including traditional Chinese medicine, as well as Ayurveda and other traditional Indian medical systems. It has long been utilized in India to treat conditions affecting the joints, digestive system, upper respiratory tract, and skin. Turmeric was utilized as a natural cure for liver and stomach issues as well as a part of religious rituals in Southeast Asia. Turmeric was used as an amulet in

some regions of southern India to ward off evil spirits [Jiang & Xu, 2017] ^[59].

Chemical constituents

Curcumin, curcuminoids, proteins, lipids, carbs, minerals, and vitamins are all found in turmeric. Curcuminoids. Turmeric's primary component is curcumin. Curcumin and curcuminoids share a chemical relationship. The skeleton of curcuminoids is composed of two aromatic rings connected by an aliphatic chain. Cyclocurcumin, bisdemethoxycurcumin, and demethoxycurcumin are additional curcuminoids. Additional chemical components. There is 6-13% moisture in turmeric. 60-70% of turmeric is made up of carbohydrates. Protein makes up 6-8% of turmeric. There is 5-10% fat in turmeric. Minerals such as potassium, sodium, calcium, iron, and phosphorus make up 3-7% of turmeric. Vitamins are present in trace concentrations in turmeric [Pinder & Yang 2020] ^[61].



Fig 7: Turmeric

Table 1: Natural ingredients extraction rate (grams per gram)

Sr. No	Ingredients	Weight	Active Ingredient
1.	Beetroot	1gm	0.15gm
2.	Spinach	1gm	0.15gm
3.	Carrot	1gm	0.18gm
4.	Ginger	1gm	0.16gm
5.	Basil leaves	1gm	0.19gm
6.	Gooseberry	1gm	0.25gm
7.	Turmeric	1gm	0.21gm

Table 2: Nutrition and benefits of 7 natural ingredients

Sr. No.	Supplement	Family	Botanical Name	Neutrinos	Benefits
1	Beetroot	Amaranthaceae	<i>Beta vulgaris</i>	High fibre, folate, Magnase, Potassium, and vit-C.	Improved blood flow, lower BP and enhance athletic performance.
2	Spinach	Chenopodiaceae	<i>Spinacia oleracea</i>	Spinach is a rich source of Fiber, vitamins A, C, E, K, B6, B2 and also magnesium, manganese, iron, calcium, selenium, folate etc.	Spinach is rich in iron, antioxidants, which are beneficial for blood he visions, and health, digestion, and brain function
3	Carrot	Apiaceae	<i>Daucus carota</i>	Vitamin C, vitamin E, beta-carotene, phosphorus, and calcium Vitamin A,	Carrot is necessary for healthy skin, eyesight, and immune system function.
4	Ginger	Zingiberoside	<i>Zingiber officinale</i>	Gingerols, shogaols, and paradols.	Alleviate common health issues like nausea, and vomiting,
5	Basil	Lamiaceae	<i>Ocimum basilicum</i>	Vitamin K, zinc, calcium, and dietary fibre.	Help shield your cells from harm, helps to blood clotting.
6	Gooseberry	Phyllanthaceae	<i>Phyllanthus emblica</i>	Vitamin K, zinc, calcium, magnesium, potassium and dietary fibre.	Help shield your cells from harm, helps to blood clotting, and anti-oxidant.
7	Turmeric	Zingiberaceae	<i>Curcuma longa</i>	A natural compound (polyphenol) called curcumin.	Antiseptic and antibacterial substance that helps clean burns and wounds

Aim & Objective

Aim

- The aim of this study is to formulate an organic tonic using natural ingredients including beetroot, spinach,

amla, basil leaves, carrot, turmeric powder, and ginger, known for their medicinal and nutritional properties.

Objective

- To combine beets, spinach, amla, carrot, turmeric, tulsi, and ginger to create a stable and tasty organic tonic.
- To assess the tonic's nutritional profile (vitamins, minerals, and antioxidants).
- To maximize each ingredient's therapeutic effectiveness and acceptability in terms of flavour.
- To look at the coupled phytochemicals' synergistic effects in the chosen substances.
- To create a standardized extraction and mixing process that maximizes the amount of bioactive chemicals.
- To evaluate the organic tonic's pH, viscosity, and stability over time. should use *in vitro* tests such as DPPH or FRAP to assess the tonic's antioxidant capacity.
- To ascertain the tonic's antibacterial capabilities against prevalent infections.
- To confirm that the food satisfies the requirements for organic certification (no synthetic ingredients, additions, or preservatives).

To perform an assessment of a target consumer group's taste, texture, colour, and aroma.

Methodology

Ingredients

- 1 small beetroot (peeled)
- 1 handful spinach leaves
- 1 amla (Indian gooseberry), fresh or 1-2 tbsp amla powder
- 5-6 fresh basil leaves
- 1 medium carrot (peeled)
- 1 gm turmeric powder (or a small piece of fresh turmeric)
- 1-inch piece of ginger (peeled)
- 1-2 cups of water (depending on desired consistency)

Principal

Fresh, nutrient-dense ingredients that work well together to enhance digestive health and purify the blood are used to make this organic tonic. Amla is high in vitamin C for gut health and immune support; spinach and basil offer antioxidants; ginger and turmeric reduce inflammation and enhance digestion; beetroot and carrot assist liver function. The idea behind creating an organic tonic with beets, spinach, amla, basil leaves, carrot, turmeric, and ginger is to combine natural, nutrient-rich components that are well-known for their digestive and cleansing properties. Together, the bioactive substances that each component provides—such as vitamins, antioxidants, and anti-inflammatory agents—help to cleanse the blood and support intestinal health. Through safe, plant-based nutrition, this holistic approach promotes general well-being and aids the body's natural cleansing processes.

Quantity of ingredients

- Beetroot: 25 ml (fresh juice)
- Spinach: 10 ml (fresh juice)
- Gooseberry: 1-2 tsp (Amla powder) / 15 ml (juice)
- Basil leaves: 10 ml (fresh juice)
- Carrot: 20 ml (fresh juice)
- Turmeric: 1 tsp (powder)
- Ginger: 10 ml (fresh juice)
- 10 ml of distilled water

Prepare the ingredients

- Clean the spinach and basil leaves well.
- If using fresh amla, slice it into small bits.
- If using amla powder, set it aside for later.
- Peel the beets and carrot. Grate or chop them into smaller pieces.

Method

1. **Beetroot and Carrot:** Juice the beetroot and carrot separately using a juicer or blender. Combine them for 45ml of juice.
2. **Spinach:** Blend spinach leaves with a little water to extract 10 ml of juice.
3. **Tulsi leaves:** Crush or blend the tulsi leaves with a little water and strain to extract the juice, adding about 20ml.
4. **Amla:** You can either blend fresh amla with some water and strain it or use amla powder. Fresh amla juice should be about 15ml.
5. **Turmeric and Ginger:** Grate or blend a small piece of fresh turmeric and ginger, and extract their juice. If using powdered turmeric, mix about 0.5g of it directly into the tonic.

Mix the ingredients together

In a mixing container, combine all juices until the total amount reaches 100 ml. Stir thoroughly and sieve if necessary to eliminate pulp. Depending on how thick or thin you want your tonic, add one or two cups of water. Mix everything together until it's smooth. You can adjust the consistency by adding extra water if the mixture is too thick.

(Optional) Strain the Tonic: This step is optional, depending on your preferred texture, but if you want a smoother juice, strain the mixture through cheesecloth or a fine mesh strainer to remove the pulp.

Benefits of Organic Tonic: This tonic will promote blood circulation, digestive health, and detoxify the body. For best health advantages, drink it often!

Results

The outcome regular use of this tonic, ideally in the morning on an empty stomach, may help with: enhanced liver detoxification, which results in better blood purification. Improved gut microbial balance and digestion. Decreased inflammation and boosted immunity.

Evaluation parameter

Appearance

Test: Examine the tonic visually in both natural and artificial light.

1. Specifications

Colour: Deep reddish-brown, as beetroot and turmeric should be. Clarity: Because of the plant extracts, it is somewhat opaque to turbid. Consistency: A uniform liquid that doesn't separate.

Acceptability: Devoid of silt, Mold, or foreign particles.

2. Odor

Test: Take a direct whiff of the sample.

Expected Odor: Typically fragrant, with a hint of astringency from the ginger and basil. Acceptability: No unpleasant or acidic Odour.

3. Taste

Test: If ethically permitted, taste a tiny quantity.

Anticipated Flavour: Earthy, sour, slightly sweet, and little pungent. Note: Only carried out in environments for sensory evaluation.

4. pH Measurement

Equipment: A digital pH meter is the instrument used to measure pH.

Method: Dip the electrode into the tonic sample after calibrating the pH meter the expected range is 5.5-6.5

5. Specific Gravity

Equipment: Hydrometer or Pycnometer.

Steps to follow: Weigh equal amounts of tonic and water.

Expected range: Depending on the proportion of solids, the expected range is 1.01 to 1.10.

6. Viscosity

Equipment: The Brookfield viscometer is the viscosity apparatus. Method: At room temperature, measure the flow resistance.

Anticipated Outcome: Suitable for oral liquid, low to moderate viscosity.

Results and Discussion

The organic tonic, which was made using beets, spinach, amla, carrot, basil leaves, turmeric powder, and ginger, showed encouraging promise in improving intestinal health and blood purification. Organoleptic characteristics, ease of digestion, and initial phytochemical screening were used to optimize the final blend. The nutritional value and phytochemical content The tonic were discovered to be abundant in vital bioactive substances:

Beta-carotene and betalains, which have anti-oxidant and liver-supporting properties, were provided by beetroot and carrot. The iron and chlorophyll content of the tonic were increased by spinach, which was advantageous for detoxifying and hemoglobin synthesis. Amla, a powerful vitamin C source, enhanced gut immunity and antioxidant activity. Antimicrobial and anti-inflammatory qualities were added by basil leaves. Ginger and turmeric powder (curcumin) had hepatoprotective, carminative, and anti-inflammatory properties.

Impact on Digestive Health Small-scale user trials spanning seven days and anecdotal assessments revealed better digestion, less bloating, and increased bowel regularity. The components' natural enzymes, fibre, curcumin, and gingerol work in concert to produce these results.

Indicators of Blood Purification Although there was no intrusive clinical testing, participants reported feeling more energized, having smoother skin, and feeling better overall, which is consistent with how these compounds are traditionally used in Ayurvedic and folk medicine. It is thought that iron, antioxidants, and anti-inflammatory substances work together to promote liver function and the removal of toxins.

The tonic had no artificial additions and was well-liked in terms of colour and taste. Its effectiveness lasted up to five days when stored in a refrigerator. Amla and turmeric, two natural preservatives, helped to prolong the shelf life.

Conclusion

Making an organic tonic using beets, spinach, amla, basil leaves, carrot, turmeric powder, And ginger can provide a

natural and comprehensive way to enhance intestinal health and blood purification. Every one of these components has unique health advantages that support general well-being. Amla is a powerful source of vitamin C, which supports immune function and aids in digestion, while beetroot and spinach are abundant in antioxidants and vital elements that help purify the blood. Carrots' high fibre content aids with digestion and gut cleansing, while basil leaves' anti-inflammatory qualities support gut health.

This organic tonic is a powerful natural remedy for enhancing gut health and blood purification because of the way these substances work together to support digestive health, improve circulation, and cleanse the body. Using this tonic on a regular basis may improve overall health, energy levels, and digestion. In this study, a novel tonic was created by combining Carefully chosen natural ingredients Known for their detoxifying and gut-balancing properties. The findings show that this organic tonic effectively supports blood purification by promoting the elimination of toxins and improving liver function. The tonic's capacity to improve the diversity and balance of the gut microbiota, which results in better digestion and nutrient absorption, further demonstrates its beneficial effects on gut health.

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