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Review on demarcate the sugar content of andropogonae genus plants

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Abstract
In this review article include that the study of and ropogonae genus plants. This genus called sorghum tribe or bluestem tribe, are a large tribe of grasses (family poaceae) with roughly 1200 species in 90 genera. They include the world most important cereal crops, maize or corn (zea mays), other important food crops like sorghum, sugarcane, globally distributed weeds like cogon grass Johnson grass.
In the traditional medicinal system these plants are also important .as compare to other plants these plants are medicinally, pharmacologically, nutrionally more beneficial. herbal plants are used for many diseases treatment and prevention purpose, this is slow but very effective and have least side effects.
The many experimental studies are done to demonstrate the sugar content of sugarcane however in this experiment we determine the sugar content of further plants which belongs to this genus or Poaceae family. For future purpose and distinguish the difference of concentration of sucrose molecules. Able to mark the concentration difference of sugar and comparative study of other plants belongs to this genus.

Keywords: Anropogonae, poaceae, genus, sugar, sugarcane, sorghum, concentration, maize, sucrose

Introduction
In traditional medicinal system various Herbal plants or plant of part use for used for scent, flavour or therapeutic supplement. Herbal plants also use for various disease treatment and its result is slow but effective. Herbal medicine is also called herbalism Phyto medicine or phytotherapy is the study of pharmacognosy & the use of medicinal plant. The desire to capture the wisdom of traditional healing systems has led to a resur-gence of interest in herbal medicines. herbal products are also called 'alternative', 'complementary', 'holistic' or 'integrative' medical systems [1]. Many modern drugs were originally extracted from plant source, even if they're now made synthetically. Whereas conventional medicines now try to use only the active ingredient a plant, herbal remedies use of the whole plant. Tribe Andropogonae is commonly known as the bluestem tribe (named after Andropogon, the bluestem or the sorghum tribe). It is large tribe of grasses family (poaceae) with 1200 species in 90 genera. Many of which include crops of high economic value including C4 crops sugarcane, sorghum and maize. Anthropogonic plants usually perennial culms 7- 6000 cm, annual not woody, often reddish or purple, particularly at the nodes, often branched above the base [2]. These genera include various plants like, Sugarcane contains 11-16 % fibre, 12- 16 soluble sugars, 2-3% non-sugar, carbohydrates and 63 - 73 % water content. It uses for antioxidant activity, cholesterol lowering properties, and other potential health benefits. The nutrient component of a typical corn kernel constitutes starch (70- 75 %, proteins (8-10 %) and oil (4-5%), vitamin C, E, K, carbohydrates & allantoin.it also passes many medicinal activity like diuretic action, soothing in chronic cystitis & increase bilw secretion, help eliminate water from from tissues, favour heart disease & obesity [3]. Sorghum contains 8 -15 %, protein 5-15 % sugar and 32-57% starch, it is rich in micronutrient like iron, zinc its part use for the seed & leaves of sorghum sometimes used to make medicines. It us used for digestion problems, HIV, AIDS obesity, diabetes and other conditions [4]. Citronella contains ammonium carbamate (18-16%), carbinol 13-57%, neophytadiene (11-65%), trasnsgerinaniol (6 -92%), phenol-methoxy (6-15%), norolean (4- 93%. It uses for antifungal, antibacterial, anti- inflammatory and mosquito repellent [5].

Various plants from and ropogonae genus contain different sugar molecules are as follows

1. Sugarcane
Saccharum officinarum generic name is derived from the Greek word sakcharon, which means sugar [6] stalk or culm consists of alternating nodes and internodes. On the node, there is a leaf scar, an axillary bud and a circumferential band of axillary root primordia. Sugarcane leaves are alternate and are attached to the stalk, with one leaf per internode [7]. fully mature cane stalk generally comprises a composition of around 11–16% fiber, 12–16% soluble sugars, 2–3% non-sugar carbohydrates, and 63–73% water content [8] the phytochemicals have gained increased interest due to their antioxidant activity, cholesterol-lowering properties, and other potential health benefits [9].

2. Bambusa
Bamboo consists of fresh leaves & dried fruits Bambusa arundinacea Linn Gramineae. Bamboos are members of the Gramineae (Poaceae) family, as are corn, sugar cane and other grasses. Bamboos differ from the other members of the grass family by the presence of branches at each node [10]. a bamboo Culm consists of internodes (which is hollow for most bamboo) and a node, which is solid and provide structural integrity for the plant. At the node are one or more buds. Bamboo plant has unusually high level of Acetylcholine which acts as a neurotransmitter. Other constituents are Cholin, betain, hydrate of silicic acid

nuclease, urease, proteolytic enzyme, cyanogenetic [11] It used in stomach disorders, appetizer, in treatment of respiratory diseases, it also stimulates menstrual cycle. It also has anti-cancer, anti-microbial, anti-inflammatory and anti-oxidant properties Antipyretic, Diuretic, head and chest colds, pharyngitis, Stomatitis, Arthritis, Haemoptysis, Febrifuge, Antileprotic, counteracting spasmodic disorders and secretion of bleeding, Treat Diarrhoea, Cooling tonic [12],

3. Bromes

Bromus interfibrous inermis Leyss. Smooth Brome, Poaceae (Grass Family) rhizomatous, clump-forming, perennial grass bearing many light green (sometimes purple- or bronze-tinged), narrow, usually hairless spikelets in a loose, much-branched terminal cluster.Bromus species are generally considered to have little economic value to humans, at least in present times [13]

4. Rice

Rice, Oryza sativa (2n = 24) belonging to the family Gramineae and subfamily Oryzoides Rice is a grain belonging to the grass family. Raw Hand pounded Rice Food Value Minerals and Vitamins Moisture - 13.3%, Calcium - 10 mg Protein - 7.5%, Phosphorus - 190 mg, Fat - 1.0%, Iron - 3.2 mg, Fibre - 0.6%, Complex Carbohydrates - 76.7% [14] It is used High blood pressure, cancer prevention, dysentery, skin care, Alzheimer's disease, heart disease digestive system disorders, and body balance [15].

5. Imperata Cylindrica

Imperata cylindrica is a medicinal plant native to southwestern Asia and the tropical and subtropical zones. The dried rhizomes of Imperata cylindrica have been commonly used in China named “Bai mao gen”, in Korean named Mo-Geun-Chu-Chul-Mul, and in Japan as a crude drug named “Boukon (Imperata rhizomes) [16]. Chemically it contains Saponins, flavonoids, glycosides, phenols, coumarins and others like The antimicrobial palmitic acid and phytol also have been isolated from I. cylindrica [17]. Medicinally it uses for Diuretic activity, homeostasis, anti-inflammatory, anti-ulcer, antioxidant, antitumor, immunomodulatory, liver protective [18]

6. Coix lacryma

It is a small herbaceous plant which can grows to a height of around 3 feet. The leaves are glossy deep green in colour. The size of leaves is up to 2 inches wide wit slightly wavy edges. The leaf sheaths are glorious and the leaf blades are narrowly lanceolate, measuring 20-50cm long and 1.5-4 cm wide. The midrib is prominent. The flowers are monoecism both male and female flowers can be found on the same plants [19]. Chemically its parts seed contains 50–79% Starch, 16–19% Proteins, 2–7%Fixed Oil, Lipids (5.67% Glycolipids, 1.83%Phospholipids, Sterols, Fatty acids [20]. The pharmacological activity of coix plants are Diuretic, Anti- rheumatic, Antispasmodic, Anti-inflammatory, Antidiarrheal, Anthelmintic, Antipyretic, Antispasmodic [21]

7. Barley

Barley (Hordeum vulgare), a member of the grass family, cooked barley is 69% water, 28% carbohydrates, 2% protein, and 0.4% fat including, dietary fibre, the B vitamin, niacin (14% DV), and dietary minerals, including iron (10% DV) and manganese (12%) [22]

8. Triticum aestivum L

Triticum aestivum. L. belongs to family poaceae [23] chemically it contains ferulic acid. Ferulic acid comprises 85% of the total phenolic acids followed by coumaric, sinapic, and caffeic acids [24] medicinally used as anticancer; antimicrobial; antidiabetic; laxative, wheat use as gastrointestinal, used in metabolic diseases [25].

9. Citronella

Pelargonium citrosum. Height 24 inches Sunlight Full sun or part shade total of 22 chemical compounds were identified in C. nardus essential oil, representing 93.1% of the detected compounds where citronellal, or 6-octenal, 3, 7-dimethyl- was the major compound (29.6%), followed by 2,6-octadienal, 3,7-dimethyl-, (E)- (11.0%), cis-2,6- it use as, an insect deterrent, As a fungicidal agent .to deal with parasite aid in wound healing to improve mood or combat weariness [26].

10. Lemon grass

C. citrates Organoleptic features of the leaves; Type - Upper surface of leaves dark green and lower surface are light green. Lemon like smell and bitter taste. 1- 2-meter-long and 5- to 10 mm wide. Leaf blades linear & tapered to both ends, sheath terete Margin - entire Surface - at, very coarse Venation is parallel [27] the key constituents of C. citratus essential oil were found to be citral α (48.26%) and citral β (39.85%) followed by limonene (1.70%), propyl amyl ketone responsible for its antifungal properties [28]. C.Citratusis used in different parts of the world in the treatment of digestive disorders, fevers, menstrual disorder, rheumatism and other joint pains [29]

11. Maize

Corn (Zea mays Linnaeus), also known as maize, is a member of the family Poaceae or Gramineae [30]. The main composition of floral maize pollen is carbohydrates (44.30±3.73%), followed by moisture (23.38±5.73%), crude proteins (17.16±3.13%), crude fibres (9.56±0.92%), and ash (4.98±0.11%), while the lowest content is observed for crude fats (0.62±0.06%) [31]. The predominant mineral is potassium Its potential antioxidant and healthcare applications as diuretic agent, in hyperglycaemia reduction, as anti-depressant and anti-fatigue use have been claimed in several reports. Other uses of corn silk include teas and supplements to treat urinary related problems [32].

12. Sorghum

Sorghum or broomcorn is a genus of about 25 species of flowering plants in the grass family (Poaceae) [33]. Sorghum grain is 72% carbohydrates including 7% dietary fibres, 11% protein, 3% fat, and 12% water. In a reference amount of 100 grams (3.5 oz), sorghum grain supplies 79 calories [34] medicinally this plant use in oxidative stress, antibreast cancer activity, cutaneous melanoma, obesity, dyslipdmia and cardiovascular disease, anti-inflammatory activity, antidiabetic [35]

13. Sudan grass

Sorghum drummondii is a hybrid-derived species of grass raised for forage and grain, native to tropical and subtropical

regions of Eastern Africa. It may also be known as Sorghum bicolor, Sorghum arundinaceum after its parent's family poaceae [36]. Sudan grass contains dhurrin, a cyanogenic glycoside that releases prussic acid after hydrolysis. The sorghum species are used for forage, hay, silage, and grain [37]

Fig 1: Sugarcane

Fig 2: Bambusa

Fig 3: Bromes

Fig 4: Rice

Fig 5: Imperata Cylindrica

Fig 6: Coix lacryma

Fig 7: Barley

Fig 8: Triticum aestivum L.

Fig 9: Citronella

Fig 10: Lemon grass

Fig 11: Maize

Fig 12: Sorghum

Fig 13: Sudan grass

Conclusion

for future purpose and distinguish the difference of concentration of sucrose molecule. able to mark the concentration difference of sugar and other comparative study of other plants belongs to this genus

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