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ROSELLE (*Hibiscus sabdariffa* L.) CROP AND THEIR USES

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Roselle (*Hibiscus sabdaariff*) is annual shrub in the Malvaceae (cotton) Family. Its major cash crop in China Sudan and Thailand. Roselle commonly cultivated in Bundelkhand Maharashtra in India. Farmers growing it as a crop. Its kharif season crop. It's also knowing as Florida cranberry, red sorrel, lemon bus Queenland jelly plant, Zobo, Ambadi (local name in Maharashtra) roselle jute plant. Its origin either Sudan in Africa, India, Malaysia in asia. That is native to Africa, most likely West Africa. In the 16th and 17th Centuries. It was apعاد to the West Indies and Asia. its stem use for the production of best fiber. China and Thailand are largest producer and control much of the world supply. Its edible part is called Caylx. Its growing industry in Malaysia. Its usefull part are leaves, stem, fruits, root, seeds. Its use as food, drink, green tea which is best for heart. Dry and wet calyx ratio is 10:1.1. That is for 100kg of 11kg dry calyx is produces. The global market size was value at \$122.8 million in 2020. And projected to reach \$252.6 million by 2030 growing a CAGR of 7.5% (21-30). its major use to Jamaican sorrel drink, roselle jam and jallies, roselle tea wine. The calyx is also used to in makring soups, pickles used as a coffee substute. Its sale by supermarket, hypermarket, online store. Its segment available as a power liquid and dry calyx. Its end use food. Pharmaceuticals, animal feed, cosmestics. Its market shares North America33%, Europe 28%, Asia-pacific 24%, South America 10%, rest of the world5%. It is typically known as sour tea. Calyx also called



sepals, surrounding the fruits (capsule). The calyces can be soaked in water to prepare a colorful cold drink or boiled in water and taken as a hot drink.



Cultivation Practices

Soil Requirements: - It grows well in tropical and subtropical climate. The plant is found under cultivation on large types of soil ranging from sandy to heavy clays. It is a kharif season crop.

Propagation and Seed rate: - Roselle is propagated from seed. It is short day plant usually requiring 12 hours or less of sunlight to flower. **Seed rate is 10-12Kg/h.**

Irrigations and fertilizers: - Regular watering is essential especially during dry period. Number of irrigations is 1-2 (dry period). NPK- 250:75:75 per hectare.

Major Insect pest and disease: -Capsule borer, flea beetle, black foot or stem root, root rot.

Control: -Spray for Insect pest control 0.2% quinolphos or nuvacron, for disease control seed treatment with 0.2% captan or 0.1% calyxin before sowing and the drenching the plants with 0.1% carbendazim or 0.3% mancozeb chemical.

Harvesting: - The crop is ready for harvesting 150-160 day.

Yield: - 13000-15000 kg/h fresh calyces which is turn yield 1800 to 2000 kg dried calyces. Seed 2500 to 3000 Kg/h.

Market prices of Calyces: - 25k to 35k per quintal.

Socio- economic value: - Economic condition of the farmers has improved as compared to the previous condition since farmers added Roselle in cultivation. It provides employment to the labours in the area where it is growing as crop. This can be helpful in doubling the income of farmers. Due to which is standard of living of farmers and laborers can improve.

Medicinal properties of Roselle: - 1. Weight loss 2. Anti-cancer Properties, 3. Protect livers, 4. Use for healthy pregnancy, 5. Blood pressure management 6. Magical Test, 7. Used to treat Cough, cold and fever, 8. Beneficial for Menstrual pain 9. Antibacterial Properties anti-inflammatory, 10. Antidepressant properties 11. use for skin care, 12. Use for ornamentation.

Nutritional				
Nutrition	Calyces Unit 100 g	Leave Unit 100 g	Seeds Unit %	Nutrient
Protein	1.9g	3.3g	27.78%	Crude protein
Fat	0.1g	0.3g	21.85%	Crude fat
Carbohydrate	12.3g	12.3g	21.25%	Carbohydrate
Fibre	2.3g	-	6.2%	Ash
Vitamin C	14mg	54ng		
B-carotene	300µg	4135µg		
Calcium	1.72µg	-		
Iron	57µg	4.8mg	20.84%	Palmitic acid
Phosphorus	-	214 mg	5.88%	Stearic acid
Thiamine	-	0.45mg	39.31%	Linoleic acid
Riboflavin	-	0.45mg	32.06%	Oleic acid

Table 1: Composition of calyces, leaves and seeds of Roselle. (Nutritional value)

Processed Product of Roselle



Future Scope

The future of Roselle cultivation is like to adaptability to environment stresses and its economic value as a source of fiber, food, medicine, burning wood and medicine. The development of stress-tolerant varieties and sustainable farming practices, such as the use of biofertilizers, could further enhance its production and utilization. The global market size was valued at \$122.8 million in 2020. And projected to reach \$252.6 million by 2030 growing a CAGR of 7.5% (21-30).

Conclusion

Now- a-days Indian agriculture required advancement of cultivation practices and new crops to enhance and upliftment of farmer's growth. As Roselle is a short duration crop and much beneficial but not much more peoples are aware about it so government should take initiative to promote cultivation and advertized more among farmers. Roselle is the crop required less input provide more output as compare to traditional crop and helping farmers to improve standard of living of farmers and laborers.

References

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