The Clean and Green Karachi, Prime minister's program of Green Youth Movement Club Dow University Of Health Sciences , Karachi, Pakistan DOW COLLEGE OF BIOTECHNOLOGY

WHIBBLE-A BIODEGRADABLE VITAMIN D CHEWING GUM Javeria Naseer, Rana Muhammad Shehrooz, Rida hashmi, Armeen Shakir, Javeria Aziz, Syeda Hadia Tirmizi, Azeem Un Nisa Midhat.

INTRODUCTION

The deficiency of vitamin D is prevalent in Pakistan due to very limited sun exposure, inadequate dietary intake, leading to major health implications. The traditional methods to fulfil the daily requirement of vitamin D is carried by supplementation, most of these supplements involve plastic packaging, leading to accumulation of non-biodegradable plastic waste. The environmental impact of non-biodegradable plastic has become a significant concern in today's world The accumulation of plastic waste causes serious damage to ecosystem, wildlife, and human well being. In this regard, we present an innovative solution, the biodegradable vitamin D chewing gum. Our revolutionary product provides an eco-friendly approach for the daily dose of your vitamin D

Vitamin D as a nutrient plays an essential role in maintaining bone health, regulating the immune system, and promoting wellness. The gum is made from plant based sources, eliminating the need for harmful and synthetic compounds. This approach allows it to break down naturally over time.

Introducing vitamin D in a chewing gum format provides a convenient and enjoyable method of supplementing vitamin D. The portability makes it a practical option for the professional individuals, who do not carry the whole plastic bottles for their daily requirement of vitamin D

This biodegradable vitamin D chewing gum offers a sustainable solution for obtaining this vital nutrient without the worry of harming the environment. This products minimize the daily plastic waste as well as providing a healthy nutrient with it

PROBLEM

The issue with traditional chewing gums is that they are constructed of plastic polymers that cannot biodegrade, like polyethylene or polyvinyl acetate. This causes plastic debris to build up in landfills, on roadways, and in the environment. Because these gums are so persistent, marine creatures mistake them for food and become entangled or ingest them, harming ecosystems and species. Traditional chewing gum production and disposal also contribute to

pollution and carbon emissions. It's critical to make the switch to environmentally friendly substitutes like Whibble Gum, which has a biodegradable gum basel, to solve these environmental issues and lessen plastic waste. Whibble Gum provides a solution for a cleaner and more sustainable future because to its biodegradable composition and environmentally friendly manufacturing processes.

PROBLEM TO BE SOLVED

Using biodegradable vitamin D chewing gum helps to address the environmental problem of plastic pollution. Traditional chewing gums often contain synthetic polymers, such as polyethylene, which are not biodegradable and can persist in the environment for years, contributing to litter and pollution.

By utilizing biodegradable materials in the production of vitamin D chewing gum, the environmental impact is significantly reduced. Biodegradable gums are typically made from natural ingredients, such as natural rubber or chicle, which can break down and decompose over time through natural processes. This means that when these chewing gums are discarded or accidentally littered, they have the potential to degrade into harmless substances without leaving behind long-lasting plastic waste.

Biodegradable chewing gums also offer a sustainable alternative for individuals who are conscious of their ecological footprint. By choosing these products, consumers can support a more sustainable and environmentally friendly option that aligns with their values and reduces the overall demand for traditional plastic-based chewing gums.

Furthermore, the use of biodegradable vitamin D chewing gums encourages broader adoption of sustainable practices and helps raise awareness about the importance of reducing plastic waste. It promotes a shift towards more eco-friendly alternatives in the oral care industry, inspiring other companies to develop and offer biodegradable options as well.

Overall, using biodegradable vitamin D chewing gums helps solve the problem of plastic pollution by providing a sustainable and environmentally friendly alternative to traditional chewing gums made from non-biodegradable materials.

COST

Our initiative of making a biodegradable and edible vitamin D chewing gums primarily based utilizing wheat, tagged WHIBBLE, will definitely favour both our consumers and customers with its cost effectiveness and reliability offering them to consider a both pocket and health friendly gum as the source of vitamin D without compromising on quality and desired characteristics that is biodegradibility, affordability and advanced vitamin intake option.

EXECUTIVE SUMMARY

Vitamin D deficiency poses a significant health challenge affecting a considerable portion of the population in Pakistan. Insufficient levels of this vital nutrient can lead to various health issues, including compromised bone strength, increased vulnerability to infections, and

overall compromised well-being. Traditional methods of obtaining vitamin D, such as sunlight exposure and dietary sources, may not always be practical or adequate to meet recommended levels, necessitating innovative solutions to address this deficiency. Therefore, we are introducing Whibble, a groundbreaking product that directly tackles the problems associated with vitamin D insufficiency. By integrating the benefits of biodegradability, edibility, and vitamin D supplementation within a chewing gum format, Whibble provides a practical and enjoyable solution to enhance vitamin D intake. This revolutionary plastic – free product aims to cater specifically to individuals, especially those with limited sun exposure or dietary restrictions, offering them a convenient and highly effective means to meet their vitamin D requirements. Whibble's unique blend of sustainability and convenience sets it apart, appealing to health-conscious consumers who seek innovative and environmentally friendly approaches to address their nutritional needs. By creatively addressing the demand for vitamin D, Whibble has the potential to carve a distinct niche in the market, serving as a go-to choice for those seeking sustainable and innovative solutions.

THE TEAM

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