

Research Article

Fruit Picker n Wrapper: An Innovation in Fruits Harvesting

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Abstract: The Fruit Picker n Wrapper is an innovative solution to producers' persistent difficulties in the agricultural sector, specifically in fruit harvesting and packaging. The fruit picker wrapper pole innovation also presents a revolutionary solution for enhancing efficiency and safety in harvesting fruit in agriculture. Furthermore, it enhances safety by minimising the need for workers to engage in risky activities such as climbing ladders, reducing the risk of accidents and injuries. The problem statement focuses on the labour-intensive and time-consuming nature of manual fruit harvesting and the possibility of fruit injury during harvesting at the highest place. The Fruit Picker n Wrapper is an inventive solution that streamlines the entire process by combining a picker, wrapper, and pole into a single device. Its length-adjustable feature allows the pole to be adapted to various tree diameters, providing versatility and usability. The attachment guarantees precise and gentle harvesting, minimising fruit injury and maximising yield. In addition, the automated packaging mechanism quickly wraps each fruit in protective materials, preventing damage and spoilage. This innovation has multiple effects, including increased harvesting efficiency, decreased labour costs, improved post-harvest management, and improved product quality. Significant commercialization potential exists for the Fruit Picker n Wrapper, as its scalable and user-friendly solution has the potential to revolutionise fruit harvesting practices widely. This innovation has the potential to revolutionise the agricultural sector and satisfy the increasing demand for efficient and sustainable food production by empowering producers with higher productivity and superior-quality fruits.

Keywords: Innovative, Harvesting, Wrapping



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1. INTRODUCTION

The revolutionary *Fruit Picker n Wrapper* represents the next version of fruit harvesting technology. This cutting-edge tool was designed to revolutionise how we harvest fruits from towering trees by combining safety, efficiency, and convenience like never before. The *Fruit Picker n Wrapper* has advanced features and a well-thought-out design that will transform the agricultural landscape. This

remarkable product addresses the difficulties farmers, orchardists, and home gardeners face when harvesting fruits from tall trees. The *Fruit Picker n Wrapper* eliminates the need for dangerous staircases and ascents, allowing for a safer and more accessible harvest. Its lightweight yet resilient telescoping handle allows users to effortlessly extend their reach, reaching even the highest branches quickly (Crone, 2023).

However, it does not end there. This innovative tool's ergonomically designed handle reduces user strain and fatigue during extended use. The improved harvesting mechanism carefully detaches fruits from their branches, preserving their quality and minimising damage. In addition, incorporating intelligent equipment, such as sensors and cameras, provides real-time feedback and facilitates the identification of mature fruits.

With the *Fruit Picker n Wrapper*, labour-intensive harvesting processes are streamlined, allowing users to gather more significant quantities of fruits swiftly and efficiently. Whether used in commercial plantations or private gardens, this product promises to revolutionise fruit harvesting by providing unprecedented convenience and enhanced productivity. With the ground-breaking, a new era of produce harvesting will begin *Fruit Picker n Wrapper*, a tool that harmoniously integrates safety, efficiency, and ingenuity. Abandon conventional techniques and adopt this innovative solution, which enables you to harvest nature's bounty as never before.

2. METHOD & MATERIAL

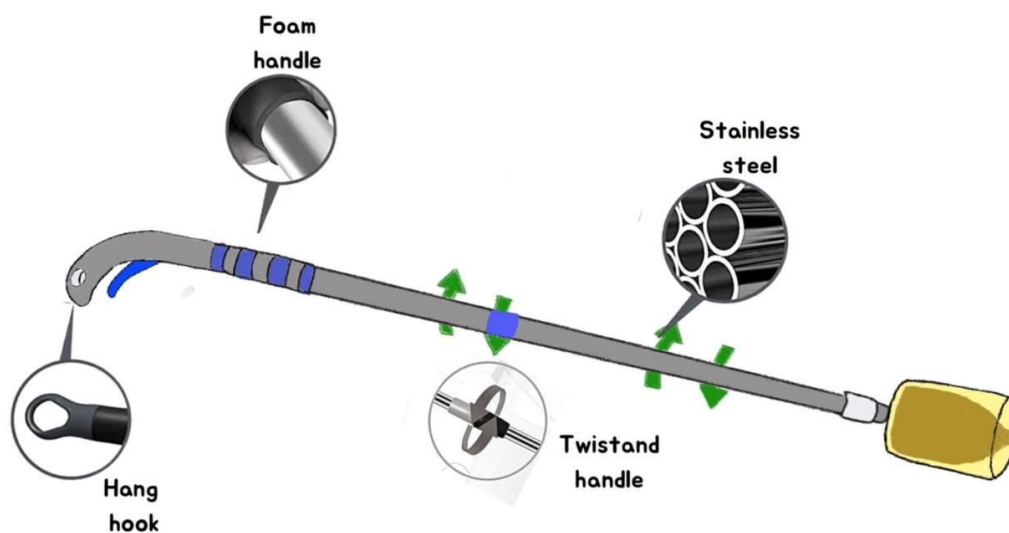


Figure 1: Fruit Wrapper body parts

1. Pole

Aluminium alloy to prevent rustproof pole, lightweight and durable. It also helps to ensure that the pole remains durable and functional over time, even in demanding or outdoor settings.

2. Wrapper container

Our product used polypropylene (pp) because of its durability and resistance to impact. They can withstand rough handling, stacking, and transportation without breaking or cracking easily. This durability protects the container's contents and reduces the possibility of injury during storage.

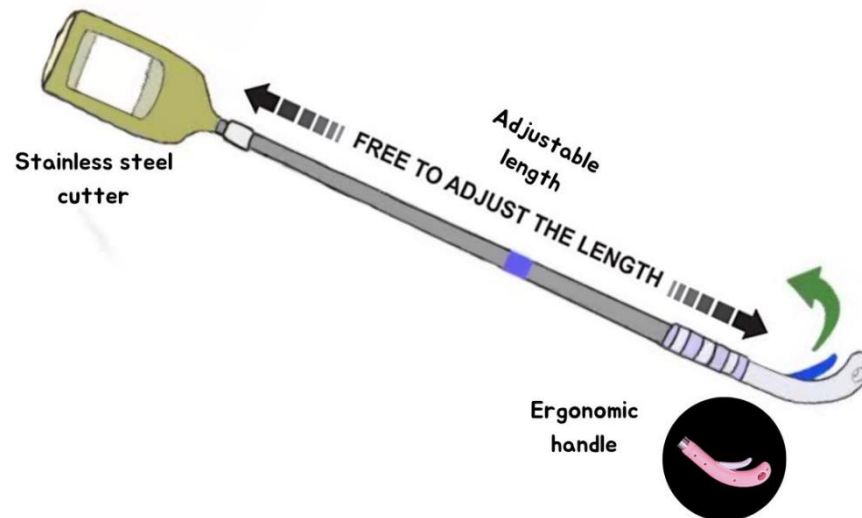


Figure 2: Fruit picker body parts

3. Grip

The foam handle design is easy to grip while offering a soft and cushioned grip, which makes them more comfortable to hold for extended periods. The foam material reduces pressure points and minimizes discomfort.

4. Ergonomic handle

Ergonomic handles are designed to optimize the user's grip, providing better control and manoeuvrability. The shape of the handle allows for a secure and comfortable grip, reducing the effort required to hold and operate the product.

5. Adjustable length

Adjustable length allows the product to adapt to changing needs or situations. It offers flexibility for users who may need to modify the length at various phases of a task or when switching between users. This adaptability enhances usability and convenience.

3. FINDINGS

According to a study that was carried out on workers in mango orchards in Thailand, workers face the problem of disorders of the musculoskeletal system because of the duties they are expected to complete. Their upper arm, shoulder, and lower back are some areas of their body that are impacted by this condition. On the Borg CR-10 scale, harvesting is one of the most physically demanding tasks, particularly for the upper arm since workers must utilize the pole for an extended period. Most perceptions and experiences, such as discomfort and perceived exertion, are measured by the Borg

CR10 Scale. It can measure emotions, taste, scent, loudness, brightness, and other sensations (Phonnipha, 2022).

Research on *Fruit Picker n Wrapper* in the agricultural sector has demonstrated numerous advantages and favourable outcomes. A study conducted by agricultural researchers compared the effectiveness of the *Fruit Picker n Wrapper* to conventional harvesting techniques and revealed compelling results. Initially, the study highlighted the substantial safety enhancement provided by fruit harvester supports. Participants reported a decreased risk of falls and injuries associated with ladder and tree climbing. Eliminating these hazards was crucial to preventing workplace accidents and promoting worker health.

In addition, the research demonstrated that using *Fruit Picker n Wrapper* substantially improves harvesting efficiency. Farmers and orchard proprietors have reported a significant decrease in time spent on produce collection, resulting in increased productivity and cost-efficiency. The ability to effortlessly reach higher branches and encompass a more significant portion of the tree canopy led to increased yields and optimised harvests.

Furthermore, the findings highlighted the positive effect of the *Fruit Picker n Wrapper* on produce quality. The harvesting procedure caused minimal fruit bruising and damage due to the poles' delicate picking mechanism. This preservation of fruit integrity increased marketability and decreased post-harvest losses, resulting in greater producers' profitability and consumer satisfaction (Lien, 2013).

The study also highlighted the accessibility advantages of the *Fruit Picker n Wrapper*. Physically limited or climbing-challenged individuals can harvest produce, expanding opportunities for involvement and inclusion in the agricultural workforce.

The findings indicated that *Fruit Picker n Wrapper* has the potential to revolutionise fruit harvesting techniques. By augmenting safety, efficiency, fruit quality, and accessibility, these innovative instruments provide the agricultural industry with a compelling solution. To ultimately capitalise on the benefits and potential of fruit picker poles in various agricultural contexts, *Fruit Picker n Wrapper* requires additional research and application (Ali, 2021).

4. DISCUSSION

The research findings on fruit harvester poles in the agricultural sector make a compelling case for their implementation. The demonstrated enhancements in safety, productivity, fruit quality, and accessibility highlight the transformative effect of these innovative instruments. *Fruit Picker n Wrapper* offers a promising solution for farmers, orchard owners, and laborers by reducing the risk of accidents, increasing productivity, preserving the fruit's integrity, and facilitating greater participation. There is a need for further discussion to investigate the implementation of fruit harvester poles on a larger scale, resolve any potential obstacles, and promote their widespread adoption in the agricultural industry. Adopting this technology could result in increased yields, enhanced worker welfare, and profitability, thereby contributing to developing more sustainable and productive agricultural practices.

Moreover, Bagging fruit on mango trees offers several advantages in agriculture. It reduces the need for chemical insecticides by providing a physical barrier between the produce and parasites such as fruit flies and weevils. Additionally, bagging prevents the entrance of spores and pathogens, thereby minimising fruit diseases. The controlled microclimate created by the sacks improves the quality of the produce by shielding it from sunlight, excessive heat, and weather damage, resulting in enhanced appearance, size, and sweetness. In addition, packaging reduces chemical use, simplifies harvesting and post-harvest handling, encourages early fruiting, extends the harvesting period, and improves overall crop management, resulting in increased yields and increased market value (Carrie,2022).

5. CONCLUSION

In conclusion, the research findings on *Fruit Picker n Wrapper* in the agricultural industry have uncovered various benefits and advantages that make them a game-changer in fruit harvesting. With its innovative design and numerous advantages, the *Fruit Picker n Wrapper* provides an appealing option for home gardeners, and smallholder farmers involved in the agricultural industry. Its integration of fruit harvesting and packaging capabilities into a single device increases efficiency, decreases labour requirements, and boosts overall output. Also, the combination of increased safety, enhanced efficiency, produce quality preservation, and increased accessibility makes a case for the widespread adoption of these innovative instruments. *Fruit Picker n Wrapper* has the potential to revolutionise the way fruits are gathered from towering trees by mitigating risks, expediting harvesting procedures, minimising fruit damage, and providing opportunities for broader participation. To realise their transformative potential, *Fruit Picker n Wrapper* require additional research, discussion, and incorporation into agricultural practices. Adopting this technology promises to enhance productivity, profitability, worker well-being, and sustainable and efficient agricultural practices. With the incorporation of the *Fruit Picker n Wrapper* as a necessary agricultural implement, the future of fruit harvesting appears optimistic.

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