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## Economical and Sustainable Non-Crisp, Healthy, Potato Snack Development

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**Executive Summary of the Community Based Final Year Project:  
‘Economical and Sustainable Non-Crisp, Healthy, Potato Snacks  
Development’.**



Students Learning with Communities

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**Title of Course:** B.Sc in Nutraceuticals in Health and Nutrition

**Name of Supervisor:** Dr. Barry Ryan

**Community Partner:** Kaethe Burt-O' Dea of '*Desireland*'

**Executive Summary:**

The current trend of snacking in between meals has led to a rise in the growing trend of obesity in Ireland. Potatoes, being one of Ireland's most accessible food sources, are an obvious choice of snack for many. Processed potatoes snacks such as crisps, which may be the most convenient and cost effective, are not always the healthiest or most nutritional choice. In addition to this fact, potato waste from processing presents significant concerns from an economical and environmental perspective. In order to tackle food wastage, '*Desireland*', the primary creator of the current community project '*SPUDS*' works to find alternative ways to use the viable nutritious potatoes that have been rejected by marketplace simply because of their shape. In conjunction with this project, the research in this thesis was carried out with the aim of developing a non-crisp healthy potato snack, which could be produced in a sustainable and economically viable way as a tangible output for the community partner. An investigation into alternative potato based snacks was carried out. During the process, an examination of the cooking and production methods was undertaken.

Investigating potential ingredients, that could be added to enhance the nutritional value and flavour, was key to producing a unique snack that could be reproduced in a cost effective way. Dulse seaweed was chosen as a secondary ingredient to potato as it has a high level of protein and iron; it was also chosen due to its availability in Ireland. To decide on a product three different recipes were produced, potato bread, microwave crackers and potato crackers, informal sensory analysis was carried out to examine the appearance, aroma, texture and taste. The potato cracker was widely accepted as the most viable option.

Once the cracker was developed a series of sensory tests were carried out in Dublin Institute of Technology in which statistical analysis was carried out which determined that sweet paprika was the preferred flavouring. The following test took place in the community of Grangegorman at a '*Desireland*' conference, in which the majority of consumers did not notice a significant difference in tastes of two different potato crackers produced using traditional full fat butter and a healthier option of Dairy free soya butter, consequently the healthier option Dairy Free Soya Butter was utilised in the finalised product.

A label was produced for the cracker and a series of tests, including inspection of water activity ( $a_w$ ) instron tests, were carried out in order to compare it to a commercial cracker. The water activity proved to be higher in a commercial cracker; however the commercial cracker was crunchier.

### **Conclusion:**

Overall, the results of the project are significant in determining that an economically viable potato snack can be produced using locally sourced ingredients and packaging. The end product is one that is attractive to a wide range of consumers, those who care about the nutritional value of what they eat and those who want a convenient snack that tastes nice. Community groups, who could source the rejected potato waste that come from larger companies, and could potentially, create a competitive alternative to crisps whilst helping to reduce the amount of potato waste produced annually.