



Ready-meals with **GREAT TASTE, LOW FAT**

BACKGROUND

Count on Us is a range of meals, salads and lunch options that are calorie controlled and low in fat. They are aimed at customers who are on weight reducing diets.

In order to adhere to the strict nutrition criteria for the range, the quantity and type of ingredients that are used have to be carefully selected.

Ingredients that are typically high in energy and fat (such as hard cheeses, cream, butter and pastry) are used in smaller quantities, but not completely excluded. Slight adjustments are made to standard full fat recipes through the use of different ingredients or ingredient ratios to help ensure nutritional guidelines are met.

The *Count on Us* range of ready meals adheres to strict nutritional criteria – benefitting those on calorie-controlled diets.

Count on Us Range

It was identified that there was a gap in the market for a new *Count on Us* (COU) pasta product that would sit within the current price range. A brief was created to design a creamy mushroom pasta product that adhered to the nutrition criteria of the range, whilst not compromising on flavour, texture and appearance. This brief was passed on to a development chef to begin work on a new recipe.

In order to meet the nutrition criteria, various factors had to be taken into account during the development process.

Ingredients

A typical mushroom sauce consists of mushrooms in a white sauce (butter/oil, milk, stock and flour) with optional ingredients to enhance flavour, such as wine, vegetables and cheese.

Butter is much higher in fat, particularly saturated fats, than vegetable oils, therefore oil was chosen for use in the

mushroom sauce. However the amount of oil used still had to be strictly controlled as it contributes to both energy and fat content. Altering the amount of oil used in a white sauce can affect the texture; less oil can reduce the important creamy mouth feel. Therefore a small amount of oil was used in conjunction with tapioca starch to maintain the desired sauce viscosity.

Cooking Methods

Cooking methods have an important role to play in the nutrition content of a meal. For example, a roasted mushroom topping which would have been a tasty addition to this product, would have required additional oil during the baking process. This would have increased the fat content of the product and resulted in it exceeding the nutrition criteria for the range. Instead the mushrooms were cooked as part of the white sauce which required no additional oil. Furthermore, peas are incorporated as a healthier, colourful alternative.

Packaging

Product packaging was designed to showcase the product as a delicious and healthy meal. This was done through:

- Large front of pack image of the cooked product
- Recognisable *Count on Us* branding
- Clear logos to highlight the nutritional benefits (calorie controlled and low in fat)
- Further nutrition messages explaining other benefits (low in saturated fat, 1 of 5-a-day)
- Front of pack labelling for quick, at a glance nutrition information.



“ *Count on Us* meals are less than 400kcal per serving and low fat (less than 3g per 100g) ”

Safety Points in the production of *Count on Us* Mushroom Pasta

Background to Production

There are four main types of products that can be separated into the following categories:

- **Ready to Eat:** Foods that are ready to be consumed – no further cooking is required.
- **Ready to Reheat:** Foods that need further heat processing before consumption, e.g. microwaving. These foods have usually been partly or completely cooked and just require reheating.
- **Ready to Cook:** Foods that need to be cooked before eating to ensure food safety.
- **Ready to Wash:** For foods that should be washed prior to eating, as washing helps to reduce pathogen risk (such as fresh vegetables).

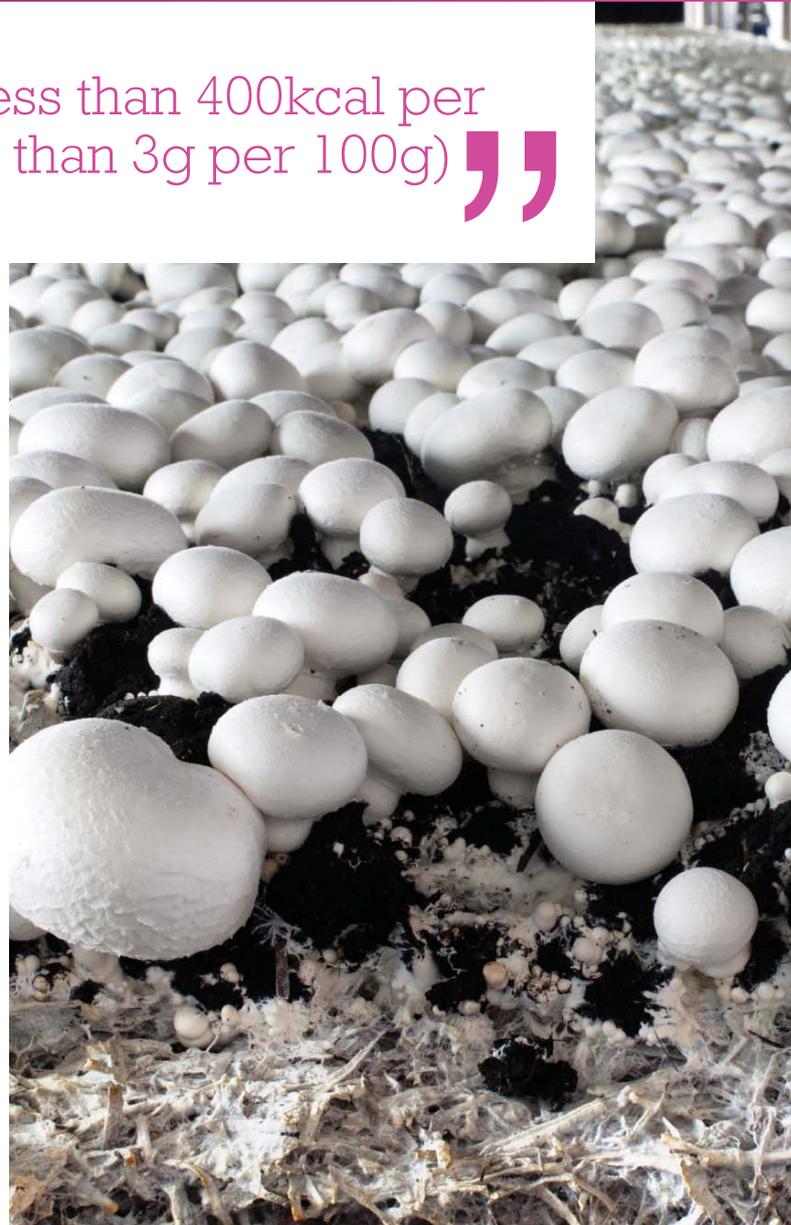
Food manufacturers closely control the production of food from delivery of ingredients to product packing, ensuring food is safe to eat. There are many potential food safety challenges that must be considered along a complete production run of a food product. The main stages in a production run that must be assessed for food safety, and have control measures put in place, are: delivery of ingredients, preparation, storage, cooking, chilling, packing, sleeving and despatch.

Hazard Analysis and Critical Control Point (HACCP) is a series of principles based around the identification and reduction of microbiological, chemical and physical hazards within a production system. A HACCP system is put in place as a preventative measure (to prevent microbiological growth or contamination with known food pathogens), instead of relying on finished product safety testing. HACCP is a vital set of control procedures within the food industry, primarily to ensure food is safe for human consumption.

Nutrition messages

Count on Us is aimed at people who are dieting or looking to lose weight so each product must adhere to strict nutritional criteria which includes being no more than 400kcal per serving and less than 3% fat. Many of these products also provide a portion of fruit and vegetables and some are low in saturated fat.

These guidelines must be taken into consideration from the very first step of product design, during the initial kitchen development stage, through to large scale factory production. The finished products undergo nutritional analysis using highly accurate testing methods to ensure all aspects of the nutrition criteria have been met.



Safety in Production

Delivery of chilled/frozen ingredients

Ingredients must be delivered below 5°C for chilled protein and dairy, below 8°C for fresh vegetables and below a maximum -15°C for frozen goods. The importance of controlled temperatures at this stage is to slow the growth of micro-organisms to ensure that ingredients retain their maximum shelf life. For example, at temperatures of above 5°C, micro-organisms (such as Listeria and Salmonella) will begin to multiply at a faster rate and the ingredient or product will begin to spoil more quickly.

Cooking of sauce, pasta and peas

The HACCP system requires all sauces are cooked to 85°C and held at this temperature for 5 minutes. Technically, a cook of 70°C for 2 minutes or equivalent is sufficient to reduce the number of pathogens and food spoilage organisms to an acceptable level. However, for a mushroom sauce a higher temperature of 85°C for 5 minutes is essential to ensure that the starch is cooked, which allows the sauce to thicken and reach the desired eating quality.

This process, along with all other cooking processes, is validated for each product on a periodic cycle to ensure that the product is achieving core temperature and is therefore safe for human consumption. For example, small probes are inserted into pieces of pasta that log temperatures over the cook cycle (every 30 minutes).

This validation is carried out during the development process on new

products so that if core temperatures are not reached, cook times can be altered accordingly to provide a product that is microbiologically safe.

Chilled storage of cooked product

Individual cooked ingredients are stored in a chilled environment below 5°C to slow the growth of micro-organisms. Holding times of cooked ingredients within a chilled atmosphere are determined during the development process.

Extensive microbiological testing is carried out throughout the predicted shelf life of a product to ensure that growth of spoilage organisms does not extend beyond an acceptable level. This testing also guarantees that no pathogens harmful to health are present within the finished product.

Packing of product

Finished product assembly is carried out in a cooled packing environment. All the components must be packed below a maximum temperature of 8°C. Temperature checks of components are carried out at the start and end of every production run and every 30 minutes in between. This ensures that the temperature is not exceeded and product safety is not compromised.

Critical Control Points in place beyond this stage include metal detection and x-ray to detect any foreign body within the product that may have been picked up along the manufacturing process and sleeve-coding. Checks are carried out to ensure that the correct shelf life is applied to the product and that it is packaged in the correct sleeve.

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Transportation

The controlled chill chain is maintained to ensure products are held at 5°C through the transport chain from despatch at the manufacturing site to storage depot. Testing is carried out throughout product transportation to ensure temperatures have not risen too high or too low from the optimum temperature which may compromise the eating quality and safety of the product.

Storage of ingredients



Selecting ingredients



Cooking the sauce



Cooking the pasta



Product assembly



Metal detection

