

Developing Sustainable and Innovative Foods Using Note by Note Cooking and 3D Printing.

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Abstract

Note by Note (NbN) cooking, which was created in 1994 by French physical chemist Professor Hervé This, is an application of Molecular Gastronomy (MG). In this type of cooking, compounds, either pure or in mixtures, are assembled to create new foods which have not existed before. Designing shapes, and choosing parameters such as colours, tastes, odours, temperatures, trigeminal stimulation, textures, and nutritional aspects allows for the creation of sustainable and innovative bespoke foods. NbN cooking and 3D food printing in combination also allows for the creation of customized foods. Results will be presented of prize-winning NbN dishes and drinks which were developed by students in TU Dublin City Campus. A NbN prototype recipe which was developed and printed using a ProcuSini 3D Food Printer will also be presented. The role of sustainable ingredients such as plant proteins, equipment such as water-baths, siphons and 3D food printers, bespoke recipes and culinary processing methods will be discussed. When using the 3D Food Printer the main challenge was optimizing the consistency of each recipe mixture before adding it to the syringe prior to printing. The recipes for the prototype foods which were created, could be modified by innovative chefs who want to surprise their diners or by food product developers who create customised foods for consumers, who wish to eat for example more plant-based proteins, those with allergies or intolerances to certain proteins and/or sports athletes.