3D Printed Note by Note Recipe: Soya Lobster Prototype

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The recipe in this chapter contains soy protein isolate 90%, which is the only plant-based complete protein source, consisting of all the necessary amino acids. It has a high concentration of branched chained amino acids (BCAAs) and can be used to create a Note by Note food that is suitable for vegans who want to increase the protein content in their diet. Also, it provides an alternative protein source for those who are allergic to dairy proteins. However, it is not suitable for those who have an allergy to soya.

Recipe

- Cornflour – 66 g (high in amylopectin)
- Caster sugar – 2 g (sucrose)
- Soya protein isolate 90% – 28 g
- Salt – 1 g (sodium chloride)
- Vegetable oil – 14 g (olive oil, high in oleic acid)
- Water – 120 g

FIGURE 110.2 (a) Uncooked Note by Note soya lobster prototype and (b) cooked Note by Note soya lobster prototype.
Mix together, remove any lumps and put into the syringe in the 
3D printer.
Print out and cook for 15 min at 180 °C.
A 3D Procusini 3.0 printing machine was used according to 
the instructions outlined in the following.

1. The “Produce object” button was selected.
2. The food item was selected by clicking the relevant button. In this case, “Pasta” was selected.
3. A prepared 60 mL cartridge was inserted containing the soya mixture with the consistency shown in Figure 110.1.
4. The device was calibrated.

5. The object for production was selected. In this case, the lobster.
6. The production was started by clicking on the start button.

After 6 min, the lobster was printed onto the silicone mat and was then cooked for 15 min at 180 °C.
The recipe and shape used can be adapted and altered. The protein content of the prototype lobster is approximately 10.9%. Odorants and colours can be added according to what the consumer wishes. Other shapes can be printed, either those available from Procusini or customized shapes, e.g., 3D scanned images.