WHAT IS CLAIMED

1. An extrudate comprising cultivated animal cells, a plant protein, at least one other ingredient, and optionally, a peptide cross-linking enzyme.

2. The extrudate of claim 1, wherein the cultivated animal cell is selected from the group consisting of an avian cell, a bovine cell, a porcine cell, and a seafood cell.

3. The extrudate of claim 1 or claim 2, wherein the cultivated animal cell is of the genus *Gallus Meleagris, Anas, Bos* or *Sus.*

4. The extrudate of any one of claims 1 to 3, wherein the extrudate comprises cultivated animal cells in an amount that is between 1% to 90% by dry weight.

5. The extrudate of any one of claims 1 to 4, wherein the plant protein is a plant protein isolate or a plant protein concentrate.

6. The extrudate of any one of claims 1 to 5, wherein the plant protein is a pulse protein.

7. The extrudate of any one of claims 1 to 6, wherein the pulse plant protein is a pulse selected from the group consisting of dry beans, lentils, mung beans, fava beans, dry peas, chickpeas, cowpeas, bambara beans, pigeon peas, lupins, vetches, adzuki, common beans, fenugreek, long beans, lima beans, runner beans, or tepary beans, soy beans, and mucuna beans.

8. The extrudate of claim 7, wherein the pulse protein is obtained from mung beans (*Vigna radiata*).

9. The extrudate of any one of claims 1 to 8, wherein the extrudate comprises a peptide cross-linking enzyme.

10. The extrudate of any one of claims 1 to 9, wherein the at least one other ingredient is selected from the group consisting lipid, salt, sugar, fiber, humectant, flavorant, colorant,

and preservative.

11. The extrudate of claim 10, wherein the composition of the lipid is a free fatty acid, triacylglycerol, or sterol.

12. The extrudate of claim 11, wherein the lipid is a plant oil selected from the group consisting of algal oil, canola oil, coconut oil, olive oil, palm oil, palm kernel oil, peanut oil, rice bran oil, safflower oil, soybean oil, sunflower oil, and mixtures thereof.

13. The extrudate of claim 10, wherein the salt is selected from the group consisting of sodium chloride, ammonium sulfate, ammonium phosphate, ammonium chloride, potassium chloride, potassium sulfate, or potassium phosphate, and a phosphate salt.

14. The extrudate of any one of claims 10 to 13, wherein the extrudate comprise soluble fiber and/or insoluble fiber.

15. The extrudate of any one of claims 10 to 14, wherein the extrudate comprises a humectant.

16. The extrudate of any one of claims 1 to 15, wherein the density of the extrudate is between 0.1 g/cm^3 to about 1 g/cm^3, between 0.1 g/cm^3 to about 0.15 g/cm^3, between 0.15 g/cm^3 to 0.2 g/cm^3, between 0.2 g/cm^3 to 0.25 g/cm^3, between 0.25 g/cm^3 to 0.3 g/cm^3, between 0.3 g/cm^3 to 0.35 g/cm^3, between 0.35 g/cm^3 to 0.4 g/cm^3, between 0.4 g/cm^3 to 0.45 g/cm^3, between 0.45 g/cm^3 to 0.5 g/cm^3, between 0.5 g/cm^3 to 0.55 g/cm^3, between 0.55 g/cm^3 to 0.6 g/cm^3, between 0.6 g/cm^3 to 0.65 g/cm^3, between 0.65 g/cm^3 to 0.7 g/cm^3, between 0.7 g/cm^3 to 0.75 g/cm^3, between 0.75 g/cm^3 to 0.8 g/cm^3, between 0.8 g/cm^3 to 0.85 g/cm^3, between 0.85 g/cm^3 to 0.9 g/cm^3, between 0.9 g/cm^3 to 0.95 g/cm^3, or between 0.95 g/cm^3 to 1 g/cm^3.

17. The extrudate of any one of claims 1 to 16, wherein the extrudate has a fibrous structure.

18. The extrudate of any one of claims 1 to 17, wherein the cultivated animal cells are cultivated in a suspension culture or an adherent culture.

19. The extrudate of any one of claims 1 to 18, wherein the extrudate is a scaffold.

20. The extrudate of any one of claims 1 to 19, wherein the extrudate is a substrate for 3D printing.