CLAIMS:

1. A composition comprising from about 0.00001 wt% to about 100 wt % of an extract derived from sugar cane for use in the prevention or treatment of viral infections in a subject , excluding gastrointestinal microbiota function, caused by a virus selected from the group consisting of Coronaviridae, Caliciviridae, Orthomyoxiviridae, Paramyxoviridae, Pneuomviridae, Flaviviridae and Togaviridae, the extract comprising from about 10 catechin equivalent (CE) g/L to about 50 CE g/L of polyphenols or from about 100 CE mg/g to about 500 CE mg/g of polyphenols and about 1 catechin equivalent (CE) g/L to about 15 CE g/L of flavonoids or from about 10 CE mg/g to about 150 CE mg/g of flavonoids and wherein the use is by a pulmonary, a respiratory, an intravenous or an oral route.

2. A method of preventing or treating viral infections in a subject, excluding gastrointestinal microbiota function, caused by a virus selected from the group consisting of Coronaviridae, Caliciviridae, Orthomyoxiviridae, Paramyxoviridae, Pneuomviridae, Flaviviridae and Togaviridae, comprising administering to the subject by a pulmonary, a respiratory, an intravenous or an oral route an effective amount of a composition comprising from about 0.00001 wt% to about 100 wt % of an extract derived from sugar cane, the extract comprising from about 10 catechin equivalent (CE) g/L to about 50 CE g/L of polyphenols or from about 100 CE mg/g to about 500 CE mg/g of polyphenols and about 1 catechin equivalent (CE) g/L to about 15 CE g/L of flavonoids or from about 10 CE mg/g to about 150 CE mg/g of flavonoids.

3. The method of claim 2 wherein the composition comprises from about 0.05 wt% to about 10 wt% of the extract.

4. The method of claim 3 wherein the composition comprises from about 0.05 wt% to about 5 wt% of the extract.

~~5. The method of any one of claims 2 to 4 wherein the virus is a coronavirus, an influenza virus or a flavivirus.~~

~~6. The composition or method of claim 5 wherein the virus is SARS-CoV2, H1N1, swine flu, bird flu, zika, dengue, yellow fever, hendra or west nile.~~

~~7. The method of any one of claims 2 to 6 wherein the composition is an oral formulation, preferably a mouthwash, a gargle, a liquid for ingestion, a capsule, tablet, lozenge or confectionary product.~~

~~8. The method of claim 7 wherein the composition is a capsule.~~

~~9. The method of any one of claims 2 to 6 wherein the composition is an intra-nasal spray.~~

~~10~~1. A composition comprising from about 0.00001 wt% to about 100 wt % of an extract derived from sugar cane for use in the prevention or in the treatment of prawns or shrimp infected with *Enterocytozoon hepatopenaei* (EHP) by inhibition or inactivation of *Enterocytozoon hepatopenaei* (EHP), the extract comprising from about 10 catechin equivalent (CE) g/L to about ~~50~~ 100 CE g/L of polyphenols or from about 100 CE mg/g to about ~~500~~ 1000 CE mg/g of polyphenols, and wherein the use is by inclusion of the extract in an aquatic environment.

2. A composition according to claim 1, wherein the extract comprises from about 10 catechin equivalent (CE) g/L to about 80 CE g/L of polyphenols or from about 100 CE mg/g to about 800 CE mg/g of polyphenols~~.~~

3. A composition according to claim 1 or 2, wherein the extract comprises from about 10 CE g/L to about 50 CE g/L of polyphenols or from about 100 CE mg/g to about 500 CE mg/g of polyphenols.

4 A composition according to any one of claims 1-3 wherein the extract comprises about 1 CE g/L to about 15 CE g/L of flavonoids or about 10 CE mg/g to about 150 CE mg/g of flavonoids.

5. A composition according to any one of claims 1-2 wherein the extract comprises from about 10 catechin equivalent (CE) g/L to about 80 CE g/L of polyphenols or from about 100 CE mg/g to about 800 CE mg/g of polyphenols and about 1 CE g/L to about 15 CE g/L of flavonoids or about 10 CE mg/g to about 150 CE mg/g of flavonoids.

6. A composition according to any one of claims 1-5 wherein the extract is in a concentration of 0.1 to 2.0% v/v.

7. A composition according to any one of claims 1-5 wherein the extract is in a concentration of 0.1 to 1.0% v/v.

8. A composition according to any one of claims 1-5 wherein the extract is in a concentration of 0.1 to 0.6% v/v.

9. A composition se according to any one of claims 1-5 wherein the extract is in a concentration of 0.3 to 0.6% v/v.

10. A composition according to any one of claims 1-5 wherein the prawn species is selected from *Penaeus monodon*, *Penaeus (Litopenaeus) vannamei* and *Penaeus (Litopenaeus) stylirostris.*

11. Use of about 0.00001 wt% to about 100 wt % of an extract derived from sugar cane, the extract comprising from about 10 catechin equivalent (CE) g/L to about 100 CE g/L of polyphenols or from about 100 CE mg/g to about 1000 CE mg/g of polyphenols, in the preparation of a composition for the prevention or in the treatment of *Enterocytozoon*

hepatopenaei (EHP) infections in prawns or shrimp by inhibition or inactivation of *Enterocytozoon hepatopenaei* (EHP), wherein the use is by inclusion of the extract in an aquatic environment.

12. Use according to claim 11, wherein the extract comprises from about 10 catechin equivalent (CE) g/L to about 80 CE g/L of polyphenols or from about 100 CE mg/g to about 800 CE mg/g of polyphenols~~.~~

13. Use according to claim 11 or 12 wherein the extract comprises from about 10 CE g/L to about 50 CE g/L of polyphenols or from about 100 CE mg/g to about 500 CE mg/g of polyphenols.

14. Use according to any one of claims 11-13 wherein the extract comprises about 1 CE g/L to about 15 CE g/L of flavonoids or about 10 CE mg/g to about 150 CE mg/g of flavonoids.

15. Use according to any one of claims 11-12 wherein the extract comprises from about 10 catechin equivalent (CE) g/L to about 80 CE g/L of polyphenols or from about 100 CE mg/g to about 800 CE mg/g of polyphenols and about 1 CE g/L to about 15 CE g/L of flavonoids or about 10 CE mg/g to about 150 CE mg/g of flavonoids.

16. Use according to any one of claims 11-15 wherein the extract is in a concentration of 0.1 to 2.0% v/v.

17. Use according to any one of claims 11-16 wherein the extract is in a concentration of 0.1 to 1.0% v/v.

18. Use according to any one of claims 11-17 wherein the extract is in a concentration of 0.1 to 0.6% v/v.

19. Use according to any one of claims 11-18 wherein the extract is in a concentration of 0.3 to 0.6% v/v.

20. Use according to any one of claims 11-19 wherein the prawn species is selected from *Penaeus monodon*, *Penaeus (Litopenaeus) vannamei* and *Penaeus (Litopenaeus) stylirostris.*

~~11~~21. A method of inhibiting or inactivating Enterocytozoon hepatopenaei (EHP) in prawns or shrimp comprising administering to the prawns or shrimp via its aquatic environment an effective amount of a composition comprising from about 0.00001 wt% to about 100 wt % of an extract derived from sugar cane, the extract comprising from about 10 catechin equivalent (CE) g/L to about ~~50~~ 100 CE g/L of polyphenols or from about 100 CE mg/g to about ~~500~~ 1000 CE mg/g of polyphenols.

22. A method according to claim 21, wherein the extract comprises from about 10 catechin equivalent (CE) g/L to about 80 CE g/L of polyphenols or from about 100 CE mg/g to about 800 CE mg/g of polyphenols.

23. A method according to 21 or 22, wherein the extract comprises from about 10 CE g/L to about 50 CE g/L of polyphenols or from about 100 CE mg/g to about 500 CE mg/g of polyphenols.

24. A method according to any one of claims 21-23 wherein the extract comprises about 1 CE g/L to about 15 CE g/L of flavonoids or about 10 CE mg/g to about 150 CE mg/g of flavonoids.

25. A method according to any one of claims 21-22 wherein the extract comprises from about 10 catechin equivalent (CE) g/L to about 80 CE g/L of polyphenols or from about 100 CE mg/g to about 800 CE mg/g of polyphenols and about 1 CE g/L to about 15 CE g/L of flavonoids or about 10 CE mg/g to about 150 CE mg/g of flavonoids.

26. A method according to any one of claims 21-25 wherein the extract is in a concentration of 0.1 to 2.0% v/v.

27. A method according to any one of claims 21-25 wherein the extract is in a concentration of 0.1 to 1.0% v/v.

28. A method according to any one of claims 21-25 wherein the extract is in a concentration of 0.1 to 0.6% v/v.

29. A method s according to any one of claims 21-25 wherein the extract is in a concentration of 0.3 to 0.6% v/v.

30. A method according to any one of claims 21-29 wherein the prawn species is selected from *Penaeus monodon, Penaeus (Litopenaeus) vannamei* and *Penaeus (Litopenaeus) stylirostris.*

~~12. A method of mitigating greenhouse gas emissions by an animal by changing the composition of microbial communities associated with the animal comprising administering to the animal, an effective amount of a composition comprising from about 0.00001 wt% to about 100 wt % of an extract derived from sugar cane, the extract comprising from about 10 catechin equivalent (CE) g/L to about 50 CE g/L of polyphenols or from about 100 CE mg/g to about 500 CE mg/g of polyphenols and about 1 catechin equivalent (CE) g/L to about 15 CE g/L of flavonoids or from about 10 CE mg/g to about 150 CE mg/g of flavonoids.~~

~~13. A composition comprising from about 0.00001 wt% to about 100 wt % of an extract derived from sugar cane for use in mitigating greenhouse gas emissions by an animal by changing the composition of microbial communities associated with the animal, the extract comprising from about 0.00001 wt% to about 100 wt % of an extract derived~~

from sugar cane, the extract comprising from about 10 catechin equivalent (CE) g/L to about 50 CE g/L of polyphenols or from about 100 CE mg/g to about 500 CE mg/g of polyphenols and about 1 catechin equivalent (CE) g/L to about 15 CE g/L of flavonoids or from about 10 CE mg/g to about 150 CE mg/g of flavonoids.

14. A method according to claim 12 wherein the animal is a ruminant and the microbial communities are in the rumen.

15. A method for the prevention or treatment of mastitis in a ruminant animal comprising administering orally to the animal, an effective amount of a composition comprising from about 0.00001 wt% to about 100 wt % of an extract derived from sugar cane, the extract comprising from about 10 catechin equivalent (CE) g/L to about 50 CE g/L of polyphenols or from about 100 CE mg/g to about 500 CE mg/g of polyphenols and about 1 catechin equivalent (CE) g/L to about 15 CE g/L of flavonoids or from about 10 CE mg/g to about 150 CE mg/g of flavonoids.

16. A composition comprising from about 0.00001 wt% to about 100 wt % of an extract derived from sugar cane for use in the oral prevention or treatment of mastitis in a ruminant animal, the extract comprising from about 0.00001 wt% to about 100 wt % of an extract derived from sugar cane, the extract comprising from about 10 catechin equivalent (CE) g/L to about 50 CE g/L of polyphenols or from about 100 CE mg/g to about 500 CE mg/g of polyphenols and about 1 catechin equivalent (CE) g/L to about 15 CE g/L of flavonoids or from about 10 CE mg/g to about 150 CE mg/g of flavonoids.