

We claim:

1. A coating composition, comprising:
a cellulose nanomaterial in an amount ranging from 0.1% w/w wet basis to 1% w/w wet basis;
and
an emulsion system, comprising a fatty acid and a surfactant, wherein the fatty acid is present in an amount ranging from 0.1% w/w wet basis to 5% w/w wet basis and the surfactant is present in an amount ranging from 0.1% w/w wet basis to 2% w/w wet basis.
2. The coating composition of claim 1, wherein the cellulose nanomaterial comprises cellulose nanofibrils.
3. The coating composition of claim 2, wherein the cellulose nanofibrils are present in an amount ranging from 0.1% w/w wet basis to 0.5% w/w wet basis.
4. The coating composition of claim 1, wherein the cellulose nanomaterial comprises cellulose nanocrystals.
5. The coating composition of claim 4, wherein the cellulose nanocrystals are present in an amount ranging from 0.1% w/w wet basis to 1% w/w wet basis.
6. The coating composition of claim 1, wherein the fatty acid is oleic acid, capric acid, lauric acid, linoleic acid, α -Linolenic acid, palmitic acid, stearic acid, arachidic acid, and any combinations thereof.
7. The coating composition of claim 1, wherein the surfactant is a sucrose ester of a fatty acid or a polysorbate surfactant.
8. The coating composition of claim 1, further comprising a functional agent, a plasticizer, or a combination thereof.
9. The coating composition of claim 8, wherein the functional agent is chitosan.
10. The coating composition of claim 8, wherein the plasticizer is glycerol.
11. The coating composition of claim 8, wherein the composition comprises a functional agent and a plasticizer, wherein the functional agent is present in an amount ranging from 0.1% w/w wet

basis to 2% w/w wet basis and the plasticizer is present in an amount ranging from 0.02% w/w wet basis to 1% w/w wet basis.

12. A coating composition, comprising:

a cellulose nanomaterial in an amount ranging from 0.1% w/w wet basis to 1% w/w wet basis;

and

an emulsion system, comprising a oleic acid and a sucrose ester of a fatty acid, wherein the oleic acid is present in an amount ranging from 0.1% w/w wet basis to 5% w/w wet basis and the sucrose ester of a fatty acid is present in an amount ranging from 0.1% w/w wet basis to 2% w/w wet basis.

13. The coating composition of claim 12, wherein the cellulose nanomaterial comprises cellulose nanofibrils.

14. A coating composition, comprising:

a cellulose nanomaterial in an amount ranging from 0.1% w/w wet basis to 1% w/w wet basis;

and

an emulsion system, comprising a polysorbate surfactant present in an amount ranging from 0.1% w/w wet basis to 2% w/w wet basis; and

a functional agent, a plasticizer, or a combination thereof.

15. The coating composition of claim 14, wherein the cellulose nanomaterial comprises cellulose nanocrystals.

16. The coating composition of claim 14, wherein the functional agent is chitosan and the plasticizer is glycerol.

17. A substantially dried coating, comprising a cellulose nanomaterial and an emulsion system, comprising a fatty acid and a surfactant.

18. The substantially dried coating of claim 17, wherein the cellulose nanomaterial is present in an amount ranging from 4.5% w/w dry basis to 9.8% w/w dry basis.

19. The substantially dried coating of claim 17, wherein the fatty acid is present in an amount ranging from 9.5% w/w dry basis to 23% w/w dry basis.

20. The substantially dried coating of claim 17, wherein the surfactant is present in an amount ranging from 9.5% w/w dry basis to 9.8% w/w dry basis.

21. The substantially dried coating of claim 17, wherein the cellulose nanomaterial comprises cellulose nanofibrils.
22. The substantially dried coating of claim 17, wherein the cellulose nanomaterial comprises cellulose nanocrystals.
23. The substantially dried coating of claim 22, further comprising chitosan in an amount ranging from 9.5% w/w dry basis to 9.8% w/w dry basis.
24. The substantially dried coating of claim 22, further comprising glycerol in an amount ranging from 2% w/w dry basis to 4.7% w/w dry basis.
25. A plant part, comprising a coating formed from the coating composition of claim 1.
26. A plant part, comprising the substantially dried coating of any one of claim 17.
27. The plant part of claim 26, wherein the plant part is a tropical fruit.
28. The plant part of claim 26, wherein the plant part is a banana, a papaya, an avocado, a melon, or a mango.
29. A method, comprising coating or substantially coating a plant or a plant part with a coating composition comprising a cellulose nanomaterial in an amount ranging from 0.1% w/w wet basis to 1% w/w wet basis; and an emulsion system, comprising a fatty acid and a surfactant, wherein the fatty acid is present in an amount ranging from 0.1% w/w wet basis to 5% w/w wet basis and the surfactant is present in an amount ranging from 0.1% w/w wet basis to 2% w/w wet basis.