SUMMARY

[005a] In a first aspect of the present disclosure, there is provided a biodegradable insect trap, comprising:

a substrate having a first surface, wherein the substrate comprises: (1) a polymeric web which comprises at least 50 weight percent polyhydroxyalkanoates or (2) a paperboard web having a coating layer applied over a least a portion of the paperboard web, wherein the coating layer comprises at least 50 weight percent polyhydroxyalkanoates;

an adhesive applied over at least a portion of the substrate first surface, wherein the adhesive comprises at least 50 weight percent polyhydroxyalkanoates; and

an insect attractant.

[005b] In another aspect of the present disclosure, there is provided a method for capturing insects, comprising the steps of:

positioning an insect trap over an agricultural field;

capturing insects with the trap; and

disposing of the trap by burying the trap in the agricultural field,

wherein the insect trap comprises

a substrate having a first surface, wherein the substrate comprises: (1) a polymeric web which comprises at least 50 weight percent polyhydroxyalkanoates or (2) a paperboard web having a coating layer applied over a least a portion of the paperboard web, wherein the coating layer comprises at least 50 weight percent polyhydroxyalkanoates,

an adhesive applied over at least a portion of the substrate first surface, wherein the adhesive comprises at least 50 weight percent polyhydroxyalkanoates, and

an insect attractant.

[006] In a first example, the present disclosure provides a biodegradable insect trap. In one example, this insect trap is made up of a substrate having a first surface, an adhesive applied over at least a portion of the substrate first surface, and an insect attractant.

[007] According to the present disclosure, the substrate may be made up of either: (1) a polymeric web is in turn made up of at least 50 weight percent polyhydroxyalkanoates or (2) a paperboard web having a coating layer applied over a least a portion of the paperboard web, wherein the coating layer is made up of at least 50 weight percent polyhydroxyalkanoates. According to the present disclosure, the adhesive is also made up of at least 50 weight percent polyhydroxyalkanoates.

[008] The structural form of the trap may vary in accordance with the present disclosure. In certain examples, the substrate is preferably made up of an elongate sheet which is suspended from an overhead support. In other examples, the substrate is preferably formed into an enclosure for trapping insects. In some examples, the substrate is preferably formed into a box for trapping insects, wherein the substrate first surface is disposed inside of the box.

[009] According to certain examples, the insect attractant is preferably made up of a pheromone which is attractive to insects. In some instances, the insect attractant is preferably made up of a pheromone which is attractive to *Diabrotica barberi; Diabrotica undecimpunctata; Diabrotica undecimpunctata howardi Barber; Cerotoma trifurcata; Hypena scabra; Nezara viridula; Acrosternum hilare; Euschistus servus; Pseudoplusia includens (Walker); Trichoplusia ni (Hubner); Anthonomus grandis; Aphis glycines (Matsumura); Epicauta sp. (pennsylvania; pestifera; fabricii); and/ or Chrysodeixis includens*.

[010] In certain examples, the pheromone is preferably applied as a coating over at least a portion of the substrate.

[011] According to certain examples, the substrate is preferably made up of at least 80 weight percent polyhydroxyalkanoates.

[012] Different forms of polyhydroxyalkanoates may be used in the substrate. In some examples, the substrate preferably includes poly-3-hydroxybutyrate-co-3-hydroxyhexanoate ("P(3HB-co-3HHx)"). In other examples, the substrate preferably includes a terpolymer made up from about 75 to about 99.9 mole percent monomer residues of 3-hydroxybutyrate, from about 0.1 to about 25 mole percent monomer residues of 3-hydroxyhexanoate, and from about 0.1 to about 25 mole percent monomer residues of a third 3-hydoxyalkanoate having from 5 to 12 carbon atoms.

[013] In some instances, the substrate may also include at least one addition one biodegradable polymer selected from the group consisting of polycaprolactone, polylactic acid, polybutylene succinate, polybutylene succinate-co-butylene adipate, polybutylene adipate terephthalate, and mixtures thereof.

[014] Different forms of polyhydroxyalkanoates may also be used in the adhesive. In some examples, the adhesive preferably includes poly-3-hydroxybutyrate-co-3-hydroxyhexanoate ("P(3HB-co-3HHx)"). In other examples, the adhesive preferably includes a terpolymer made up from about 75 to about 99.9 mole percent monomer residues of 3-hydroxybutyrate, from about 0.1 to about 25 mole percent monomer residues of 3-hydroxyhexanoate, and from about 0.1 to about 25 mole percent monomer residues of a third 3-hydoxyalkanoate having from 5 to 12 carbon atoms.

[015] In some instances, the adhesive is also made up of a biodegradable tackifier, such as a collagen-based tackifier or a mucilage tackifier.

[016] The insect trap is also biodegradable. According to certain examples, the insect trap is preferably biodegradable as determined by ASTM D5988. In certain other examples, the insect trap is preferably home compostable as determined by ASTM D6400.

[017] In certain examples, the also preferably does not include any insecticide.

[018] In a further example, the present disclosure also provides a method for capturing insects. According to one example, this method includes the steps of positioning an insect trap over an agricultural field; capturing insects with the trap; and disposing of the trap by burying the trap in the agricultural field.