Claims

1. A chimeric insecticidal protein comprising SEQ ID NO: 28, wherein the chimeric insecticidal protein exhibits inhibitory activity against an insect species of the order Lepidoptera.

2. The chimeric insecticidal protein of claim 1, wherein the insect species is selected from the group consisting of: *Anticarsia gemmatalis*, *Diatraea saccharalis*, *Elasmopalpus lignosellus*, *Helicoverpa zea*, *Heliothis virescens*, *Chrysodeixis includens*, *Spodoptera cosmioides*, *Spodoptera eridania*, *Spodoptera frugiperda*, *Spodoptera exigua*, *Spodoptera litura*, *Pectinophora gossypiella*, *Diatraea grandiosella*, *Earias vitella*, *Helicoverpa gelotopeon*, and *Rachiplusia nu*.

3. A polynucleotide encoding the chimeric insecticidal protein of claim 1, wherein the polynucleotide is operably linked to a heterologous promoter.

4. A polynucleotide encoding a chimeric insecticidal protein, wherein the polynucleotide comprises a nucleotide sequence that:
   a) is set forth in SEQ ID NO: 27; or
   b) encodes the chimeric insecticidal protein of claim 1.

5. A host cell comprising the polynucleotide of claim 4, wherein said polynucleotide comprises the full length sequence as set forth in SEQ ID NO: 27, wherein the host cell is selected from the group consisting of a bacterial host cell and a plant host cell.

6. The host cell of claim 5, wherein the bacterial host cell is selected from the group consisting of *Agrobacterium, Rhizobium, Bacillus*, *Brevibacillus*, *Escherichia*, *Pseudomonas*, *Klebsiella*, and *Erwinia.*

7. The host cell of claim 5, wherein said plant host cell is selected from the group of plants consisting of monocots and dicots.

8. An insect inhibitory composition comprising the chimeric insecticidal protein of claim 1.

9. The insect inhibitory composition of claim 8, further comprising at least one insect inhibitory agent different from the chimeric insecticidal protein.

10. The insect inhibitory composition of claim 9, wherein said at least one insect inhibitory agent is selected from the group consisting of an insect inhibitory protein and an insect inhibitory dsRNA molecule.

11. The insect inhibitory composition of claim 9, wherein said at least one other pesticidal agent exhibits activity against one or more pest species of the orders Lepidoptera, Coleoptera, Hemiptera, Homoptera, or Thysanoptera.

12. A seed comprising an insect inhibitory effective amount of:
    a) the chimeric insecticidal protein of claim 1; or
    b) the polynucleotide set forth in SEQ ID NO: 27.

13. A method of controlling a Lepidopteran pest, the method comprising contacting the Lepidopteran pest with an inhibitory amount of the chimeric insecticidal protein of claim 1.

14. A transgenic plant cell, plant or plant part comprising a chimeric insecticidal protein, wherein the chimeric insecticidal protein comprises SEQ ID NO:28.

15. A method of controlling a Lepidopteran pest, comprising exposing the pest to said transgenic plant or plant part of claim 14, wherein said plant or plant part expresses a Lepidopteran inhibitory amount of the chimeric insecticidal protein.

16. A commodity product derived from said plant or plant part of claim 13, wherein the product comprises a detectable amount of the chimeric insecticidal protein.

17. The commodity product of claim 15, wherein the product is selected from the group consisting of plant biomass, oil, meal, animal feed, flour, flakes, bran, lint, hulls, and processed seed.

18. A method of producing a seed comprising the chimeric insecticidal protein of claim 1, the method comprising:

a) planting at least one seed comprising the chimeric insecticidal protein of claim 1;

b) growing plants from said seed; and

c) harvesting seed from said plants, wherein the harvested seed comprises the chimeric insecticidal protein of claim 1.

19. A recombinant polynucleotide molecule encoding the chimeric insecticidal protein of claim 1, comprising the full length nucleotide sequence as set forth in SEQ ID NO:27; and a polynucleotide sequence encoding an insect inhibitory agent different from the chimeric insecticidal protein.

20. A recombinant nucleic acid molecule comprising a heterologous promoter operably linked to a polynucleotide segment encoding a chimeric insecticidal protein, wherein:

a) the chimeric insecticidal protein comprises SEQ ID NO:28; or

b) the polynucleotide segment comprises SEQ ID NO: 27;

wherein said chimeric insecticidal protein exhibits inhibitory activity against an insect species of the order Lepidoptera.