54. The method of claim **52**, wherein said composition comprises dsRNA encapsulated in a synthetic matrix and applied to said plant surface or a seed coating.

55. The method of claim **54**, wherein said matrix is a polymer.

56. The method of claim **54**, wherein said composition is topically applied as a microbe that is engineered to express said dsRNA or comprises a fermentation product from said microbe.

57. The method of claim **52**, wherein said composition further comprises one or more additives selected from stickers, wetters, and UV protectants for foliar application.

58. The method of claim **56**, wherein said composition comprises a granular formulation for soil application.

59. The method of claim **52**, further comprising topically applying to said plant one or more *Bacillus thuringiensis* insecticidal proteins.

60. The method of claim **52**, wherein said plant comprises a nucleic acid sequence encoding at least a first *Bacillus thuringiensis* insecticidal protein.

61. The method of claim **59**, wherein said *Bacillus thuringiensis* insecticidal protein is selected from the group consisting of a Cry1, a Cry3, a TIC851, a CryET70, a Cry22, a binary insecticidal protein CryET33 and CryET34, a binary insecticidal protein CryET80 and CryET76, a binary insecticidal protein TIC100 and TIC101, a binary insecticidal protein PS149B1, a VIP insecticidal protein, a TIC900 or related protein, a TIC901, a TIC1201, a TIC407, a TIC417, and an insecticidal chimera thereof.

62. The method of claim **52**, wherein said plant expresses a dsRNA for suppression of an essential gene in said pest.

63. A method for reducing or eliminating invertebrate pest infestation on a plant, comprising topically applying to the seed before planting a pesticidally effective amount of a pesticide composition comprising a dsRNA targeting for suppression of an essential gene in said pest.

64. The method of claim **63**, wherein said pesticidally effective amount ranges from about 10 g to about 2000 g of the pesticide composition per 100 kg of weight of the seed.

65. The method of claim **64**, wherein said pesticidally effective amount ranges from about 50 g to about 1000 g of the pesticide composition per 100 kg of weight of the seed.

66. The method of claim **65**, wherein said pesticidally effective amount ranges from about 100 g to about 600 g of the pesticide composition per 100 kg of weight of the seed.

67. The method of claim **63**, wherein said pesticidally effective amount is over about 60 g of the active ingredient of said composition per 100 kg of weight of the seed.

68. A method for delivering the composition of claim **46** to an insect, comprising exposing said insect to a diet containing said composition, or overlaying said composition on top of an insect diet and exposing said insect to said diet.

* * * * *