consumers. Unfortunately, the toxicity of conventional insecticides presents significant risks when used in confined areas and in areas inhabited by animals and humans.

Therefore, given the observed shortcomings of juvenoids and chitin synthesis inhibitors when used alone in the pest control industry to quickly and effectively eradicate pest infestations, as well as the toxicity of an IGR combined with a conventional insecticide to non-target organisms, it would be desirable to provide a pesticide composition comprising only a combination of IGRs (specifically, a juvenoid combined with a chitin synthesis inhibitor) that would quickly and effectively provide multiple opportunities to disrupt the lifecycle (molting, metamorphosis, and reproduction) of pests in order to eradicate an infestation quicker than by using a single IGR by itself. Moreover, a combined IGR pesticide containing a juvenoid and a chitin synthesis inhibitor would eliminate the need to further include a conventional insecticide and thereby diminish the toxicity to non-target organisms.

SUMMARY ~~OF THE INVENTION~~

It has been unexpectedly found that a pesticide composition comprising active pesticides, wherein the active pesticides comprise a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, provides improved efficacy against invertebrate pests, namely, cockroaches, fleas, and beetles.

In one aspect, there is provided a pesticide composition for controlling cockroaches and fleas in a confined area, the composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid; and, from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor, wherein the composition comprises up to 70% by weight of total active pesticide.

In another aspect, there is provided a pesticide composition for controlling cockroaches and fleas in a confined area, the composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid selected from the

group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide.

In another aspect, there is provided a pesticide concentrate for controlling cockroaches and fleas in a confined area comprising:

a. a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and

b. an aqueous medium, such that the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In another aspect, there is provided a pesticide concentrate for controlling cockroaches and fleas in a confined area comprising:

a. a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight pyriproxyfen and from about 0.5% to about 69.5% by weight novaluron, wherein the composition comprises up to 70% by weight of total active pesticide; and

b. an aqueous medium, such that the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In another aspect, there is provided a pesticide concentrate for controlling cockroaches and fleas in confined areas comprising:

a. a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight hydroprene and from about 0.5% to about 69.5% by weight novaluron, wherein the composition comprises up to 70% by weight of total active pesticide; and

b. an aqueous medium, such that the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In another aspect, there is provided a pesticide concentrate for controlling cockroaches and fleas in confined areas comprising:

a. a pesticide composition comprising active pesticides comprising about 1.3% by weight pyriproxyfen and about 1.3% by weight novaluron; and

b. an aqueous medium, such that the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In another aspect, there is provided a pesticide composition for controlling pests on crop products, the composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid; and, from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor, wherein the composition comprises up to 70% by weight of total active pesticide.

The pesticide compositions of the present ~~invention~~ disclosure are preferably dispersed in an aqueous medium (e.g., water and/or an organic solvent) thereby forming a pesticide concentrate. It has been found that the application of the novel pesticide concentrate (containing a pesticide composition comprising a combination of a juvenoid and a chitin synthesis inhibitor) to an area infested by insects provides quicker and more effective control of pests than would be experienced following application of a pesticide concentrate containing either IGR by itself.

The present ~~invention~~ disclosure generally relates to a pesticide composition comprising active pesticides comprising from about 1% to about 69% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and, from about 1% to about 69% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide.

Further, the present ~~invention~~ disclosure is directed to a pesticide concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% and about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof, and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, such that the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for controlling cockroaches and fleas in a confined area, which method comprises applying to the confined area a pesticide concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% and about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.51% and about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an

aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for controlling cockroaches and fleas in a confined area, which method comprises applying to the confined area a pesticide concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight pyriproxyfen, and from about 0.5% to about 69.5% by weight novaluron, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for controlling pests on crop products, which method comprises applying to the crop products a pesticide concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% and about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.51% and about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for protecting a confined area from flea infestation and/or treating an interior surface having an infestation of fleas to substantially eliminate the infestation, which method comprises:

a. identifying a confined area or interior surface; and

b. applying a pesticide concentrate to the confined area or interior surface, the pesticide concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5%

by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for protecting an exterior area from flea infestation and/or treating an exterior area having an infestation of fleas to substantially eliminate the infestation, which method comprises:

a. identifying an exterior surface to be treated;

b. applying a pesticide concentrate to the exterior area, the pesticide concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% and about 69.5% of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% and about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for protecting an interior area from cockroach or cricket infestation and/or treating an interior surface having an infestation of cockroaches or crickets to substantially eliminate the infestation, which method comprises:

a. identifying an interior area to be treated; and

b. applying a pesticide concentrate to the interior area, the pesticide concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% and about 69.5% of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for protecting a structure from cockroach or cricket infestation and/or treating a structure having an infestation of cockroaches or crickets to substantially eliminate the infestation, which method comprises:

a. identifying a perimeter surrounding the foundation of the structure to be treated;

b. applying a pesticide concentrate to the perimeter, the concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor

selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for protecting a food or non-food warehouse from pest infestation and/or treating a warehouse having an infestation of pests to substantially eliminate the infestation, which method comprises:

a. identifying an interior location of the warehouse to be treated; and

b. applying a pesticide concentrate to the identifies area, the pesticide concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet aspect, there is provided a method for protecting a food-handling establishment from pest infestation and/or treating a food-handling establishment having an infestation of pests to substantially eliminate the infestation, which method comprises:

a. identifying an interior location of the establishment to be treated; and

b. applying a pesticide concentrate to the identified area, the pesticide concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for protecting an interior surface from ant infestation and/or treating an interior surface having an infestation of ants to substantially eliminate the infestation, which method comprises:

a. identifying an interior surface location to be treated; and

b. applying a pesticide concentrate to the identified location, the pesticide concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide

concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for protecting a structure from ant infestation and/or treating a structure having an infestation of ants to substantially eliminate the infestation, which method comprises:

a. identifying a perimeter surrounding the structure;

b. applying a pesticide concentrate to the perimeter, the concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for protecting an interior surface from flying pest infestation and/or treating an interior surface having an infestation of flying pests to substantially eliminate the infestation, which method comprises:

a. identifying an interior surface location to be treated; and

b. applying a pesticide concentrate to the interior area, the concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of

a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for protecting a structure from flying pest infestation and/or treating a structure having an infestation of ants to substantially eliminate the infestation, which method comprises:

a. identifying a perimeter surrounding the structure;

b. applying a pesticide concentrate to the perimeter, the concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for protecting crops from pest infestation and/or treating crops having an infestation of pests to substantially eliminate the infestation, which method comprises:

a. identifying an area to be treated;

b. applying a pesticide concentrate to the area, the concentrate comprising (1) a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide; and (2) an aqueous medium, wherein the pesticide composition is dispersed in the aqueous medium to form the pesticide concentrate comprising from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for making a pesticide concentrate for controlling fleas in interior locations, wherein the method comprises:

a. preparing a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total active pesticide;

b. filling a mixing container between about one-quarter and about one-third full with water;

c. measuring 1 ounce of composition per gallon of water;

d. adding the pesticide composition to the container;

e. filling the container with the remaining water to prepare a desired volume of pesticide concentrate;

f. agitating the pesticide concentrate, wherein the pesticide concentrate comprises from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for making a pesticide concentrate for controlling fleas in exterior locations, wherein the method comprises:

a. preparing a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof;

b. filling a mixing container between about one-quarter and about one-third full with water;

c. measuring 1 ounce of composition per 5 to 15 gallons of water;

d. adding the pesticide composition to the container;

e. filling the container with the remaining water to prepare a desired volume of pesticide concentrate; and

f. agitating the pesticide concentrate, wherein the pesticide concentrate comprises from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for making a pesticide concentrate for controlling cockroaches in an interior and/or exterior location, wherein the method comprises:

a. preparing a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb,

hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof;

b. filling a mixing container between about one-quarter and about one-third full with water;

c. measuring 2 ounces of composition per gallon of water;

d. adding the pesticide composition to the container;

e. filling the container with the remaining water to prepare a desired volume of pesticide concentrate;

f. agitating the pesticide concentrate, wherein the pesticide concentrate comprises from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for making a pesticide concentrate for controlling pests in interior and exterior locations, wherein the method comprises:

a. preparing a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof;

b. filling a mixing container between about one-quarter and about one-third full with water;

c. measuring 1.5 fluid ounces of composition per gallon of water;

d. adding the pesticide composition to the container;

e. filling the container with the remaining water to prepare a desired volume of pesticide concentrate;

f. agitating the pesticide concentrate, wherein the pesticide concentrate comprises from about 0.005% to about 0.5% by weight of the active pesticides.

In yet another aspect, there is provided a method for making a pesticide concentrate for controlling pests in crop farms, wherein the method comprises:

a. preparing a pesticide composition comprising active pesticides comprising from about 0.5% to about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof; and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof;

b. filling a mixing container between about one-quarter and about one-third full with water;

c. measuring an effective amount of composition per 5 to 15 gallons of water;

d. adding the pesticide composition to the container;

e. filling the container with the remaining water to prepare a desired volume of pesticide concentrate; and

——agitating the pesticide concentrate, wherein the pesticide concentrate comprises from about 0.005% to about 0.5% by weight of the active pesticides.

In addition, the present ~~invention~~ disclosure further provides a method of controlling cockroaches and fleas in a confined area, the method comprising applying a pesticide concentrate to a locus where pest control is required, the pesticide concentrate comprising (1) a pesticide composition comprising active pesticides comprising from

about 0.5% to about 69.5% by weight of a juvenoid selected from the group consisting of epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene, and combinations thereof, and from about 0.5% to about 69.5% by weight of a chitin synthesis inhibitor selected from the group consisting of bistrifluron, buprofezin, chlorfluazuron, cyromazine, diflubenzuron, flufenoxuron, flucycloxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron, and combinations thereof, wherein the composition comprises up to 70% by weight of total