

## CHICKPEA / GARBANZO BEAN

Chickpea stems, leaves and seed pods are covered with small, hairlike glandular structures that secrete malic and oxalic acids. The secretions discourage insects from feeding on the plants. Therefore, insect problems on chickpeas have been minimal and insecticide applications generally have not been necessary. Several viral diseases that are transmitted by aphids have occasionally been reported in chickpea fields from the states of Washington and Idaho. Potential insect pests of chickpea include seedcorn maggots, armyworms, aphids, cutworms, grasshoppers, lygus bugs and wireworms.

### Insecticides approved for control of insect pests in Chickpea

INSECTICIDE	DOSAGE IN LB AI/ACRE	PRODUCT PER ACRE	RESTRICTIONS ON USE
<b>beta-cyfluthrin</b> Baythroid XL <span style="float: right;"><i>RUP</i></span>	0.0125 - 0.025	1.6 - 3.2 fl oz	PHI = 7 days. Maximum of 6.4 fl oz per acre per season. Maximum of 3.2 fl oz per acre between 14-day interval. Minimum application volume is 10 GPA by ground and 2 GPA by air. Do not feed treated vines or hay to livestock. Label includes plant bugs, grasshoppers, and other insect pests. For pea aphid, use high rate of 3.2 fl oz/acre for pest suppression only.
<b>bifenthrin + zeta-cypermethrin</b> Hero <span style="float: right;"><i>RUP</i></span>	0.04 - 0.10	4.0 - 10.3 fl oz	PHI = 3 days. Do not apply more than 0.266 lb ai per acre per season. Do not make applications less than 5 days apart. Except Lygus bugs and wireworms.
<b>cyfluthrin</b> Tombstone Tombstone Helios <span style="float: right;"><i>RUP</i></span>	0.025 - 0.050	1.6 - 3.2 fl oz	PHI = 7 days. Do not apply more than 0.05 lb ai per acre per 14 day interval. Do not apply more than 0.1 lb ai per acre per season.
<b>dimethoate</b> Digon 400 Dimethoate 400	0.25 - 0.5	0.5 - 1 pt	Labeled for aphid control. Peas may be harvested mechanically on day of application. Do not feed treated plants to livestock. Label includes aphids, grasshoppers, leafhoppers and lygus bugs.
<b>esfenvalerate</b> Asana XL <span style="float: right;"><i>RUP</i></span>	0.02 - 0.03	Low Rate: 3.9 - 5.8 fl oz	PHI = 21 days. The lower rates are for control of first- and second-stage grasshoppers ONLY. The reduced-rate application has a range of 3.9 - 5.8 fl oz. The higher rates are for control of grasshopper nymphs larger than 2 <sup>nd</sup> instar. Do not apply more than 0.2 lb ai/acre per season. Do not feed or graze livestock on treated fields. Apply with a minimum of 2 GPA for air and 10 GPA for ground applications.
<b>GRASSHOPPER ONLY</b>	0.03 - 0.05	High Rate: 5.8-9.6 fl oz	
<b>esfenvalerate</b> Adjourn Asana XL <span style="float: right;"><i>RUP</i></span>	0.03 - 0.05	5.8 - 9.6 fl oz	PHI = 21 days. Do not apply more than 0.2 lb ai/acre per season. Do not feed or graze livestock on treated fields. Apply with a minimum of 2 GPA for air and 10 GPA for ground applications.
<b>gamma-cyhalothrin</b> Proaxis <span style="float: right;"><i>RUP</i></span>	0.01 - 0.015	2.56 - 3.84 fl oz	PHI = 21 days. Label includes aphid, grasshopper, cutworm and others. Proaxis may be used to control grasshoppers in bordering, non-crop areas that are not hayed or grazed.
<b>imidacloprid</b> Attendant 600 Senator 600	refer to recommended label rate	1.6 - 3.2 fl oz per cwt of seed	Apply as a commercial seed treatment. Follow all applicable directions, restrictions and precautions on the EPA registered label.
<b>imidacloprid</b> Enhance AW	refer to recommended label rate	5 oz per 100 lbs of seed	Apply as an on-farm seed treatment at planting time. Do not graze or feed livestock on treated area for 60 days after planting. Follow all applicable directions, restrictions and precautions on the EPA registered label. For early season control of aphids and wireworms.

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<b>imidacloprid</b> Admire Pro  Controls aphids and leafhoppers only	0.25 - 0.38	7.0 - 10.5 fl oz	PHI = 21 days. Maximum of 10.5 fl oz per acre per season. Apply using one of the following methods: 1) Chemigation into root zone, 2) In-furrow spray at planting directed on or below seed; 3) In a narrow (2" or less) surface band over seed-line during planting incorporating to a depth of 1 to 1.5' with sufficient irrigation within 24 hours following applications, 4) In a narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting, or 5) As a post-seeding drench, transplant drench or hill drench.
<b>imidacloprid</b> Nuprid 2F  Controls aphids, leafhoppers, lygus bug only	see label	16 - 24 fl oz	PHI = 21 days. Maximum amount allowed per season 24 fl oz/acre/season. Apply using one of the following methods: 1) Chemigation into root-zone through low-pressure drip, trickle, microsprinkler or equivalent equipment, 2) In-furrow spray during planting directed on or below seed, 3) Narrow band spray at ground cracking directly over the row during hilling covered with 3 In a narrow (2" or less) surface band over seed-line during planting incorporated to a depth of 1 to 1.5 inches with sufficient irrigation within 24 hours following application, 4) In a narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting, or 5) As a post-seeding drench, transplant drench, or hill drench. Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.
<b>lambda-cyhalothrin</b> Lambda-Cy Grizzly Z Silencer  <i>RUP</i>	0.02 - 0.03	2.56 - 3.84 fl oz	PHI = 21 days. Label includes aphid, grasshopper, cutworm and others. Warrior may be used to control grasshoppers in bordering, non-crop areas that are not hayed or grazed. Do not apply more than 0.12 lb ai per acre per season.
<b>lambda-cyhalothrin</b> Kaiso  <i>RUP</i>	0.02 - 0.03	1.33 - 2 fl oz	
<b>methomyl</b> Lannate LV  <i>RUP</i>	0.45 - 0.9	1.5 - 3 pts	PHI = 1 day. Of the 3 insects mentioned above, the label only includes cutworms.
<b>spinosad (microbial)</b> Spintor 2SC	0.062 - 0.094	4 - 6 fl oz	PHI = 28 days. Do not feed forage or hay to meat or dairy animals. Label includes armyworms and <b>European corn borer</b> .
<b>spinosad (microbial)</b> Success	0.047 - 0.094	3 - 6 fl oz	PHI = 28 days. Do not apply more than a total of 12 fl oz per acre per season.. <b>For control of armyworms, corn borer, loopers, leafminers and thrips only.</b> Treat when pests appear, targeting eggs at hatch or small larvae. Use a higher rate in the rate range for larger larvae or moderate to severe infestations.
<b>spinetoram</b> Radiant SC	0.031 - 0.063	4 - 8 fl oz	PHI = 28 days. Do not apply more than 12 fl oz (0.094 lb ai) spinetoram per acre per season. Do not make more than 6 applications per season. Do not make applications less than 4 days apart.
<b>zeta-cypermethrin</b> Mustang Max Mustang Max EC  <i>RUP</i>	0.017 - 0.025	2.72 - 4 fl oz	PHI = 21 days. Do not apply more than 0.15 lb AI per acre per season. Do not make applications less than 5 days apart. Apply by air or by ground using sufficient water to obtain full coverage. Use a minimum of 2 gals per acre by air and 10 gals per acre by ground. Label includes aphids, armyworms, cutworms, grasshoppers, plant bugs, and more (see label).

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zeta-cypermethrin Respect	0.017 - 0.025	2.72 - 4 fl oz	
<i>RUP</i>			
<i>RUP</i> - Restricted use pesticide			