



Syngenta
Force[®]
CS

Complete Corn
Insect Control in
an Advanced
Liquid Formulation



Force[®] CS is the **new soil-applied insecticide** from Syngenta designed to deliver consistent performance in an advanced, convenient liquid formulation. For over 20 years, growers have trusted the performance of Force[®] 3G for superior control of corn rootworms as well as troublesome early-season pests. Now, with Force CS, growers can achieve the same top-rated performance they have come to expect from Force 3G in an easier-to-use liquid formulation. Other soil-applied insecticides are lacking when it comes to providing an ideal combination of performance and convenience, but Force CS delivers both in a fully integrated insecticide delivery system.

Through the new, innovative Central Insecticide System[™] manufactured by John Deere, growers are able to more efficiently apply Force CS during corn planting. The application system is fully integrated with the planter, so growers can apply Force CS to their corn acres as needed. The Central Insecticide System draws Force CS from its closed, patent-pending packaging via direct injection, mixes it with water, delivers the solution to the individual planter row units, and applies it in a T-band over the furrow so there are no recirculation or compatibility issues. Plus, as a result of this partnership, growers are provided with complete, top-notch service and support from both Syngenta and John Deere.

Consistent Performance

Force CS offers superior control of corn rootworms versus competitive products in both full-field and refuge acres. In addition, Force CS is the premier product for control of early-season pests such as white grub, wireworm and cutworm. Bt hybrids offer no control of early-season pests and may not perform well in areas with high corn rootworm infestations. Seed treatments and competitive liquid insecticides also fall short when it comes to rootworm control. With Force CS, growers can now control both corn rootworms and early-season pests with one top-performing product.

Pests Controlled or Suppressed with Force CS

Time of Application	Insects Controlled	Force CS Rate: fl. oz/1000 ft of row
At Planting	Corn Rootworms (Mexican, Northern, Southern and Western varieties) Cutworm Lesser Corn Stock Borer Seedcorn Beetle Seedcorn Maggot White Grub ¹ Wireworm ¹	0.46 – 0.57 T-band
At Planting	Billbug ² Chinch Bug ² Red Imported Fire Ant ³	0.46 – 0.57 T-band
At Planting	Cutworm	0.34 – 0.46 T-band when cutworm is the only pest

1 Use 0.57 rate for heavy infestations.







2 Suppression only

3 Suppression only for 28 days



Superior Control of Corn Rootworm

Corn rootworms (CRW) are a growing problem among growers in the Midwest. Uncontrolled, CRW populations can affect plant health and ultimately yields. CRW feeding can lead to increased susceptibility to disease and reduced ability to absorb water and nutrients from the soil. These factors increase the stress level of the corn plant, which can lead to decreased yields. CRW feeding can also interfere with the root brace formation, resulting in lodged or goose-necked corn that is difficult to harvest.

	Visual Damage	Linear Scale
	No Damage	0
	Feed scars evident, but none eaten to within 1.5 inch of plant	0.10
	Several roots eaten to within 1.5 inch, but total not equivalent to one node	0.50
	One node destroyed	1.0
	Two nodes destroyed	2.0
	Three nodes destroyed	3.0

Force CS delivers high performance CRW control even in heavy pressure zones, unlike Bt varieties and seed treatments. It can be used for full-field CRW control or for refuge acre management.

Corn rootworms don't just affect corn-on-corn acres. In fact, many areas are seeing the highest CRW infestations in first-year corn, and the pest has adapted to survive crop rotations. For example, in many areas corn rootworm larvae overwinter in soybean fields then hatch when the field is rotated back to corn. In the past, this was a recessive trait for CRW but it has recently turned into the dominant trait. Some CRW populations can lay dormant for nearly two years waiting for corn to return to the field.

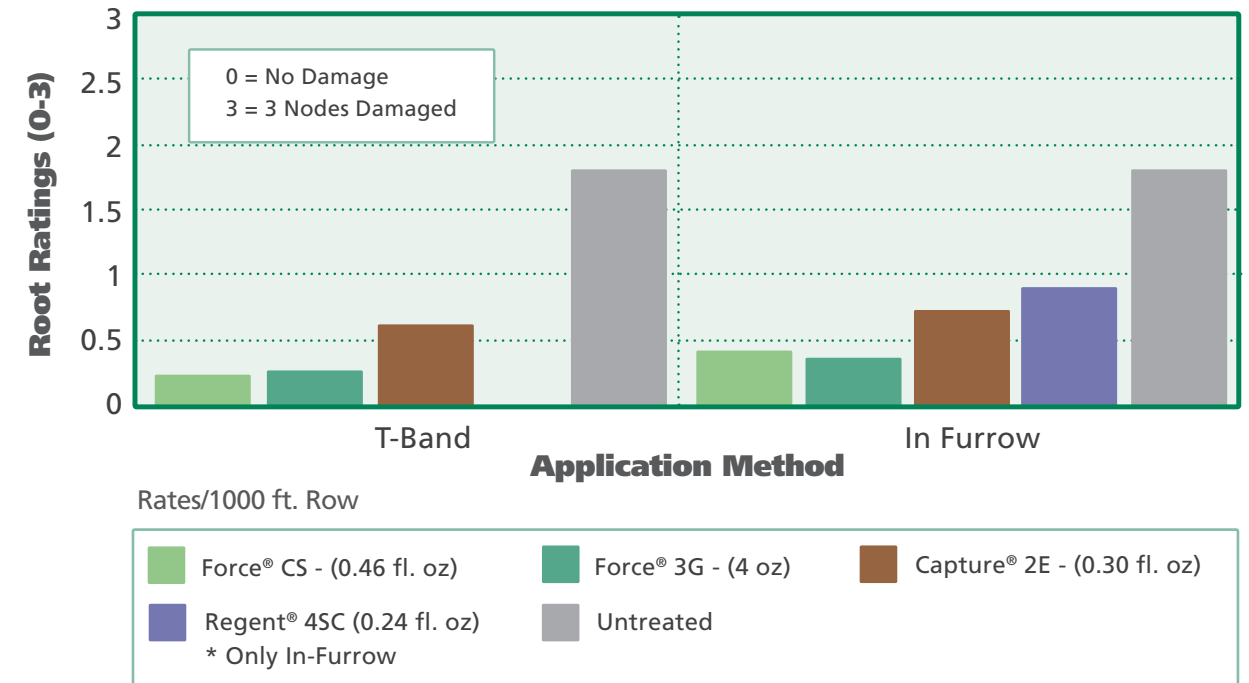


Force CS Performance Data

Field trials have shown the performance of Force CS is equal to top-rated Force 3G and significantly outperforms competitive liquid insecticides such as Capture® 2E and Regent® 45C for control of corn rootworm – even in fields with heavy rootworm pressure.

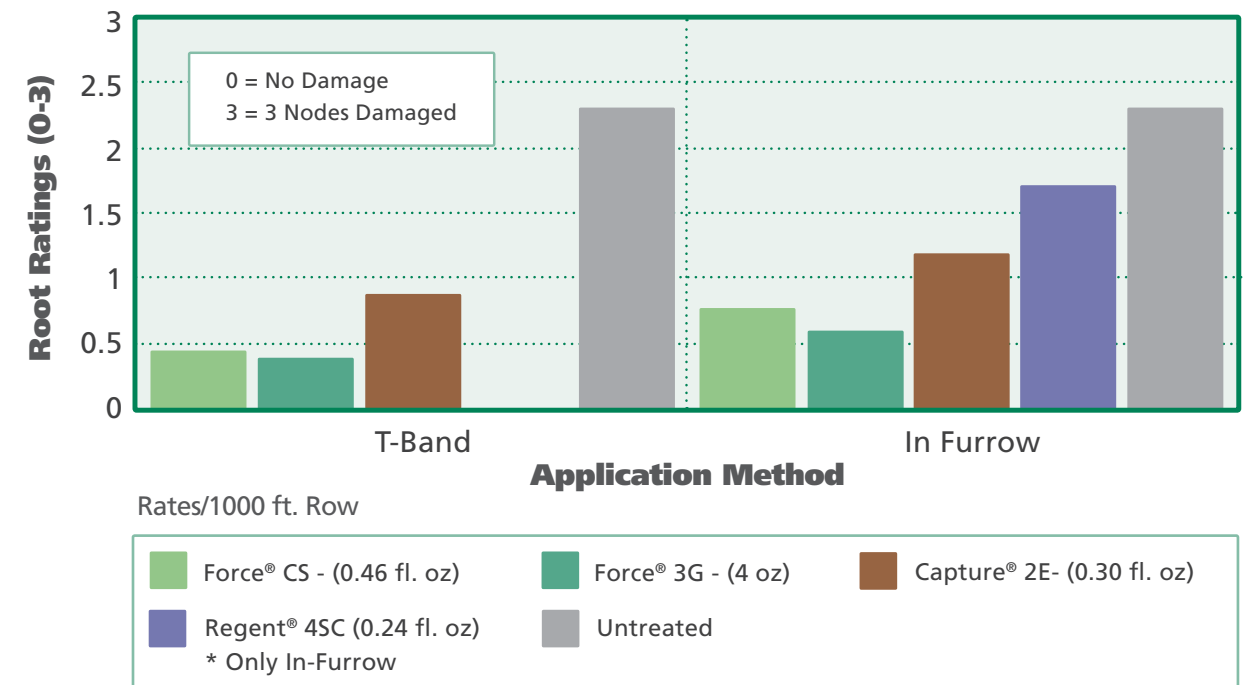
Corn Rootworm Efficacy, 2006

8 trials



Corn Rootworm Efficacy, 2006

4 trials with High CRW Pressure



Convenient, Advanced Formulation

Growers don't have to choose between performance and convenience with Force CS. The advanced liquid formulation makes it easier to use than granular formulations such as Aztec® or liquid insecticides like Capture and Regent. Force CS is applied through the Central Insecticide System, which is fully integrated into the John Deere planter. The Central Insecticide System is available as a factory option or as a field-installed attachment.

In addition, the unique, patent-pending packaging of Force CS alleviates many product handling concerns. The Central Insecticide System is an easy-to-use closed system, providing improved safety for applicators. The closed calibration of the system offers additional safety because the applicator does not come into direct contact with the product.



The high-load formulation of Force CS also reduces the amount of handling and hauling. The Central Insecticide System allows growers the flexibility to conveniently load product for a single day's use. This cuts down on partials as well as trips taken to reload the planter. One 2.5 gallon box of Force CS will treat about 40 acres in 30-inch rows. See chart below for rates required for different row spacing.

Fluid Ounces of Force CS Insecticide Required Per Acre for Various Row Spacing						
Row Spacing	40"	38"	36"	34"	32"	30"
Linear Ft./Acre	13,068	13,756	14,520	15,374	16,335	17,424
Fluid Ounces /1000 Ft. of Row	Fluid Ounces of Force CS Required Per Acre					
0.34	4.5	4.7	5.0	5.3	5.6	6.0
0.46	6.0	6.3	6.7	7.1	7.5	8.0
0.57	7.5	7.9	8.3	8.8	9.4	10.0

Easy Refuge Acre Management

Force CS is an excellent solution for high-performance refuge acre management because of its unmatched performance on corn rootworm and early-season pests. Growers planting Bt traits must adhere to the Environmental Protection Agency (EPA) standards for refuge management, which state that 20 percent of planted acres must be a conventional corn hybrid. These requirements are important for insect resistance management (IRM) so that Bt technology will be preserved.

Through the Central Insecticide System, growers can easily comply with refuge acre management requirements. The convenience of having the insecticide application equipment integrated with the planter can be a real timesaver when running refuge acres. The system allows growers to control the number of rows sprayed with Force CS with a flip of a switch from inside the cab of the tractor. This is especially convenient given the multiple options allowed for planting refuge acres. Whatever your refuge structure, the Central Insecticide System can be configured to deliver the appropriate amount of Force CS.

Application Procedures

Direct Injection Applications – Follow John Deere recommendations for spray preparation and calibration to deliver the recommended Force CS insecticide rates.

Benefits of Force CS

- Delivers the consistent performance growers have come to expect from Force 3G
- Superior control of corn rootworms, even in heavy pressure zones
- Premier product for early-season pests such as white grub, wireworm and cutworm
- Unmatched corn rootworm control – ideal for both full-field and refuge acre management utility
- Convenient, advanced liquid formulation
- Closed system reduces product handling concerns
- Flexibility to load product for a single day's use
- Top-notch, in-field service and support from Syngenta and John Deere

Additional Product Guidelines

- Rotational crops may be planted no sooner than 30 days after application.
- The restricted entry interval for this product is 12 hours.
- Applicators and handlers must wear long sleeved shirt, long pants, chemical resistant gloves (Category C such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber or polyvinyl chloride (PVC) or viton >14 mils), shoes and socks.
- Force CS is a Restricted-Use Pesticide due to toxicity to fish and aquatic organisms. Use with care when applying in areas adjacent to any body of water.
- Store Force CS in original container only and keep closed when not in use. Dispose of empty containers in a landfill or by other procedures approved by local or state authorities.



For more information, visit ForceCS-insecticide.com, syngentacropprotection.com, JohnDeere.com/Ag or contact the Syngenta Customer Center at 1-866-SYNGENTA (866-796-4368).

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