

Cost Estimates of Studies Required for Pesticide Registration April 2018

Test Guideline	Guideline Section or NA*	Test Name	Average Test Cost Adjusted for Inflation to 2016
810.1000	0.0000	Overview, Definitions, and General Considerations	\$125,700
810.1550	0.0000	Product Identity and Disclosure of Ingredients (Composition) (Chemical Identity)	\$300
810.2100	0.0000	Products for hard surfaces -EPA Disinfectant test	\$8,300
810.2100	0.0000	Products for hard surfaces - AOAC Fungicide test	\$2,000
810.2100	(b)&(i)	Chemical Analysis	\$6,300
810.2100	(f)	Products for hard surfaces - Fungicidal test	\$2,000
810.2100	(g)	Products for hard surfaces - Virucidal activity method	\$5,000
810.2100	(g)	Products for hard surfaces -AOAC Tuberculocidal test	\$4,100
810.2100	(j)	Products for hard surfaces -Sanitizer test non food	\$5,000
810.2100	(l)	Products for hard surfaces - Hard inanimate surface non food	\$5,000
810.2100	(m)(2)	Products for hard surfaces - AOAC Germicidal, detergent sanitizers	\$4,400
810.2100	b,c,d or i	Products for hard surfaces -AOAC use dilution test, germicidal	\$7,500
810.2100	c,d,e	Products for hard surfaces -AOAC Use dilution/germicidal spray/carrier	\$7,500
810.2200		Products for hard surfaces - AVG	\$7,300
810.2200	- itemized	Limited disinfectant	\$4,900
810.2200	- itemized	Broad spectrum disinfectant	\$6,800
810.2200	- itemized	Hospital disinfectant	\$7,000
810.2200	- itemized	Fungicidal disinfectant	\$5,000
810.2200	- itemized	Virucidal disinfectant	\$15,400
810.2200	- itemized	Tuberculocidal disinfectant	\$5,500
810.2200	- itemized	Additional bacteria	\$4,800
810.2200	- itemized	Non-food contact	\$6,100
810.2200	- itemized	Food contact - Halide products	\$5,200
810.2200	- itemized	Food contact - Non-halide products	\$7,200
810.2200	- itemized	Sanitizers for urinal and toilet bowl water and in-tank sanitizers	\$6,700
810.2200	- itemized	Residual self-sanitizing - wet surfaces	\$6,100
810.2200	- itemized	Sterilants	\$13,900
810.2300	b	Products for fabrics/textiles -EPA Carpet Sanitizer	\$4,100
810.2400		Products for air sanitizers	\$6,500
810.2400	(b)(j)	Chemical Analysis	\$200
810.2400	(b)(l)	Chemical Analysis	\$5,000
810.2600		Products for microbial pests associated with human and animal waste	\$6,700
810.2700	(d)	Products for treating water systems AOAC- water disinfectants pools	\$9,400
810.3000		General considerations for Efficacy of invertebrate control agents	\$800
810.3100		Soil treatments for imported fire ants	\$18,200
810.3200		Livestock,poultry,fur and wool bearing animal treatments	\$189,300
810.3300		Treatments to control pests of human and pets	\$269,200
810.3400		Mosquito,blackfly and biting midge treatments	\$52,900
810.3500		Premises Treatments	\$17,600
810.3600		Structural Treatments	\$34,000
810.3700		Insect repellants for human skin and outdoor premises	\$95,800
810.3700	- itemized	Cage studies with mosquitoes	\$23,000
810.3700	- itemized	Cage studies with biting flies	\$25,500
810.3700	- itemized	Lab studies with ticks	\$33,900
810.3700	- itemized	Field studies with mosquitoes	\$77,700
810.3700	- itemized	Field studies with biting flies	\$77,700
810.3800	0.0000	Methods for efficacy testing of termite baits	\$70,500
830.1550		Product identity and composition	\$300
830.1600		Description of materials used to produce the product	\$400
830.1620		Description of production process	\$500
830.1650		Description of formulation process	\$500
830.1670		Discussion of formulation of impurities	\$500
830.1700		Preliminary analysis	\$37,000
830.1750		Certified limits	\$300
830.1800		Enforcement analytical method	\$19,400
830.1900		Submittal of samples	\$600
830.6302		Color	\$900
830.6303		Physical state	\$900
830.6304		Odor	\$900
830.6313		Stability to normal and elevated temperatures, metals, and metal ions	\$10,400
830.6314		Oxidation/reduction: chemical incompatibility	\$3,500
830.6315		Flammability	\$2,500
830.6316		Explosibility	\$4,900
830.6317		Storage stability	\$14,500
830.6319		Miscibility	\$1,400
830.6320		Corrosion characteristics	\$3,500

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830.6321		Dielectric breakdown voltage	\$3,000
830.7000		pH	\$900
830.7050		UV/visible light absorption	\$2,500
830.7100		Viscosity	\$1,800
830.7200		Melting point/melting range	\$1,500
830.7220		Boiling point/boiling range	\$1,900
830.7300		Density/relative density/bulk density	\$1,800
830.7370		Dissociation constants in water	\$5,700
830.7520		Particle size, fiber length, and diameter distribution	\$1,700
830.7550		Partition coefficient (n-octanol/water) - shake flask method	\$7,800
830.7560		Partition coefficient (n-octanol/water) -generator column	\$8,400
830.7570		Partition coefficient (n-octanol/water) -estimation chromatography	\$5,500
830.7840		Water Solubility: column elution/shake flask	\$11,300
830.7860		Water solubility	\$11,300
830.7950		Vapor pressure	\$18,800
835.1110		Activated Sludge Sorption Isotherm	\$21,700
835.1230		Sediment and soil adsorption/desorption	\$46,900
835.1240		Leaching and adsorption/desorption	\$64,100
835.1410		Laboratory volatility	\$30,800
835.2120		Hydrolysis	\$46,100
835.2210		Direct Photolysis	\$43,200
835.2240		Photodegradation in water	\$56,300
835.2370		Photodegradation in air	\$150,800
835.2410		Soil photolysis	\$81,300
835.3110		Ready Biodegradability	\$9,500
835.3180		Freshwater and marine or estuarine environmental expression testing	\$141,800
835.3220		Porous Pot Test	\$36,200
835.3300		Soil Persistence and Degradation	\$141,100
835.4100		Aerobic soil metabolism	\$118,600
835.4200		Anaerobic soil metabolism	\$164,900
835.4300		Aerobic aquatic metabolism	\$112,300
835.4400		Anaerobic aquatic metabolism	\$639,100
835.6100		Terrestrial field dissipation	\$399,300
835.6200		Aquatic field dissipation	\$335,800
835.6300		Forestry dissipation	\$346,200
835.6400		Combination and tank mixes	\$540,800
835.7100		Groundwater Monitoring	\$1,679,000
835.8100		Field volatility	\$569,700
840.1100		Spray droplet size spectrum	\$304,200
840.1200		Spray drift field deposition	\$19,100
850.1000		Use Profile	\$300
850.1010		Aquatic invertebrate acute toxicity, freshwater daphnids	\$21,400
850.1020		Gammarid acute toxicity test	NA
850.1025		Oyster acute toxicity test	\$25,300
850.1035		Mysid acute toxicity test	\$25,300
850.1045		Penaeid acute toxicity test	\$25,300
850.1055		Bivalve acute tox larval (embryo/larval)	\$25,300
850.1075		Fish acute toxicity (freshwater)	\$14,100
850.1075		Fish acute toxicity test (estuarine/marine)	\$13,600
850.1300		Daphnid chronic toxicity test	\$148,400
850.1350		Mysid chronic tox - aquatic invertebrate life-cycle (saltwater)	\$45,700
850.1400		Fish early-life stage toxicity test (freshwater)	\$46,800
850.1450		Fish early-life stage toxicity test (saltwater)	NA
850.1500		Fish life-cycle toxicity	\$644,000
850.1710		Aquatic Bioavailability/Biomagnification: Oyster BCF	\$145,700
850.1730		Aquatic Bioavailability/Biomagnification: Fish BCF	\$165,100
850.1735		Whole sediment acute toxicity invertebrates (freshwater)	\$24,100
850.1740		Whole sediment acute toxicity invertebrates (marine)	\$51,400
850.1790		Chironomid sediment toxicity test	\$101,500
850.1800		Tadpole/sediment subchronic toxicity test	\$239,400
850.1850		Aquatic food chain transfer - Bioavailability	\$382,100
850.1900		Generic freshwater microcosm test (laboratory)	\$360,600
850.1925		Site-specific aquatic microcosm test (laboratory)	\$305,600
850.1950		Simulated or actual field testing - field animal	\$644,000
850.1950		Simulated or actual field testing - aquatic	\$754,000
850.1950		Simulated or actual field testing - insect predators	\$110,000

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850.1950		Simulated or actual field testing - plants	\$78,500
850.2100		Avian acute oral toxicity test	\$12,700
850.2200		Avian dietary toxicity test	\$8,100
850.2300		Avian reproduction test	\$211,400
850.2400		Wild mammal acute toxicity	\$52,900
850.2500		Simulated or actual field testing terrestrial wildlife	\$662,200
850.2500		Simulated or actual field testing - birds	\$754,000
850.3020		Honey bee acute contact toxicity	\$4,000
850.3030		Honey bee toxicity of residues on foliage	\$15,700
850.3040		Field testing for pollinators	\$59,700
850.4000		Background - Nontarget plant testing	NA
850.4025		Target area phytotoxicity	NA
850.4100		Terrestrial plant toxicity (seedling emergence, Tier I)	\$20,000
850.4150		Terrestrial plant toxicity (vegetative vigor, Tier I)	\$20,400
850.4200		Seed germination/root elongation toxicity test	\$14,100
850.4200		Seed Germination	\$35,100
850.4225		Seedling emergence, Tier II	\$25,600
850.4230		Early seed growth toxicity test	NA
850.4250		Vegetative vigor, Tier II	\$40,600
850.4300		Terrestrial plants field study, Tier III	\$48,300
850.4400		Aquatic plant toxicology test using Lemna spp., Tier I	\$39,900
850.4400		Aquatic plant toxicology test using Lemna spp., Tier II	\$41,300
850.4450		Aquatic plants field study, Tier III	\$31,300
850.5100		Soil microbial community toxicity test	\$15,600
850.5400		Algal Toxicity Tier I and Tier II	\$15,800
850.6800		Modified activated sludge, respiration inhibition test	\$4,700
860.1100		Chemical identity	\$1,600
860.1200		Directions for use	\$5,000
860.1300		Nature of the residue in plants	\$125,700
860.1300		Nature of the residue in livestock	\$133,000
860.1340		Residue analytical method - plants	\$16,000
860.1340		Residue analytical method - livestock	\$82,300
860.1360		Multiresidue method	\$30,200
860.1380		Storage stability data	\$21,800
860.1400		Water	\$67,500
860.1400		Irrigated crops (<i>one-crop</i>)	\$96,100
860.1400		Fish	\$130,700
860.1460		Food handling	\$257,600
860.1480		Meat/milk/poultry/eggs	\$187,200
860.1500		Crop field trials	\$91,900
860.1520		Processed food/feed	\$98,800
860.1540		Reduction of Residues	\$18,800
860.1550		Proposed tolerance	\$6,700
860.1560		Reasonable grounds in support of the petition	\$12,600
860.1650		Submittal of analytical reference standards	\$400
860.1850		Confined accumulation in rotational crops	\$293,700
860.1900		Field accumulation in rotational crops	\$188,500
870.1100		Acute oral toxicity (rat)	\$4,400
870.1200		Acute dermal toxicity	\$6,400
870.1300		Acute inhalation toxicity (rat)	\$30,900
870.1300		Acute inhalation tox (microbials)	\$15,100
870.2400		Acute eye irritation (rabbit)	\$2,500
870.2500		Acute dermal irritation	\$2,500
870.2600		Skin (dermal) sensitization	\$8,900
870.3100		90-day oral toxicity in rodents	\$173,500
870.3150		90-day oral toxicity in non-rodents	\$259,900
870.3200		21/28-day dermal toxicity	\$114,100
870.3250		90-day dermal toxicity	\$145,100
870.3355		Combined Chronic Toxicity/Carcinogenicity Testing of Respirable Fibrous Particles (inhalation route)	\$4,071,100
870.3465		90-day inhalation toxicity (rat)	\$576,000
870.3700		Prenatal developmental toxicity study (rat)	\$128,600
870.3700		Prenatal developmental toxicity study (rabbit)	\$183,000
870.3800		Reproduction and fertility effects (multigeneration) - rat	\$432,000
870.4100		Chronic oral toxicity - dog	\$832,500
870.4200		Carcinogenicity (microbials)	\$1,266,500
870.4200		Carcinogenicity (rat and mouse, preferred)	\$1,773,400

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870.5100		Bacterial reverse mutation assay	\$5,800
870.5300		In vitro mammalian cell gene mutation test	\$26,300
870.5375		In vitro mammalian chromosomal aberration test	\$31,600
870.5380		Mammalian spermatogonial chromosomal aberration test	\$24,400
870.5385		Mammalian bone marrow chromosomal aberration test	\$37,700
870.5395		Mammalian erythrocyte micronucleus test	\$25,800
870.5450		Rodent dominant lethal assay	NA
870.5500		Bacterial DNA damage or repair tests	NA
870.5550		Unscheduled DNA synthesis in mammalian cells in culture	\$28,300
870.6100		Acute and 28 day delayed neurotoxicity organophosphorus substances (hen)	\$108,800
870.6200		90-day Neurotoxicity (rat)	\$252,200
870.6200		Acute neurotoxicity (rat)	\$170,900
870.6300		Developmental neurotoxicity study	\$771,600
870.6500		Schedule-controlled operant behavior	\$224,800
870.6850		Peripheral nerve function	\$150,800
870.6855		Neurophysiology: sensory evoked potentials	\$150,800
870.7200		Companion animal safety	\$213,800
870.7485		Metabolism and pharmacokinetics	\$214,800
870.7600		Dermal penetration	\$173,500
870.7800		Immunotoxicity	\$71,200
875.1100		Dermal outdoor exposure	\$210,900
875.1200		Dermal indoor exposure	\$158,900
875.1300		Inhalation outdoor exposure (HRSB costs not included)	\$494,300
875.1400		Inhalation indoor exposure	\$158,900
875.1500		Biological monitoring	\$236,700
875.1600		Application exposure data reporting and calculations	\$10,300
875.1700		Product use information	\$3,800
875.2100		Dislodgeable foliar residue dissipation and turf transferable residues	\$75,500
875.2200		Soil residue dissipation	\$278,700
875.2300		Indoor surface residue dissipation	\$82,800
875.2400		Dermal exposure	\$172,000
875.2500		Inhalation exposure	\$100,100
875.2600		Biological monitoring (HRSB costs not included)	\$411,900
875.2700		Product use information	\$4,100
875.2800		Description of human activity	\$4,100
875.2900		Data reporting and calculations	\$4,100
875.3000		Nondietary ingestion exposure	\$102,800
880.1100		Product identity	\$300
880.1200		Description materials, production, formulation	\$1,100
880.1400		Discussion of formation of impurities	\$400
880.3800		Immune Response	\$106,800
880.4350		Non-target insect testing	\$18,800
880.4425		Dispenser - water leaching	\$31,400
885.1100		Product Identity	\$6,300
885.1200	a	Manufacturing process	\$4,400
885.1200	b	Deposition of samples	\$4,400
885.1300		Discussion of formulation of unintentional ingredients	\$4,400
885.1400		Analysis of samples	\$93,600
885.1500		Certification of limits	\$400
885.2000		Background for residue analysis of microbial pest control agents	NA
885.2100		Chemical identity	\$800
885.2200		Nature of the residue in plants	\$136,100
885.2250		Nature of the residue in animals	\$147,200
885.2300		Analytical method - plants	\$33,400
885.2350		Analytical method - animals	\$55,200
885.2400		Storage stability, plants	\$39,000
885.2500		Magnitude of residue in plants	\$172,400
885.2550		Magnitude of residue in meat/milk/poultry	\$198,100
885.2600		Magnitude of residue in potable water, fish, and irrigated crops	\$278,300
885.3000		Background Mammalian Infectivity/pathogenicity analysis	\$314,200
885.3050		Acute oral toxicity/pathogenicity	\$41,500
885.3150		Acute pulmonary toxicity/pathogenicity	\$47,100
885.3200		Acute injection toxicity/pathogenicity (intravenous)	\$47,100
885.3200		Acute injection toxicity/pathogenicity (intraperitoneal)	\$15,700
885.3400		Hypersensitivity incidents	\$1,000
885.3500		Cell Culture	\$37,700

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885.3550		Acute toxicity, TI	\$27,000
885.3600		Subchronic toxicity/pathogenicity	\$188,500
885.3650		Reproductive/fertility effects	\$91,100
885.4050		Avian Oral, TI	\$18,800
885.4100		Avian Inhalation toxicity/pathogenicity, TI	\$20,100
885.4150		Wild mammal toxicity/pathogenicity, TI	\$81,700
885.4200		Freshwater fish toxicity/pathogenicity, TI	\$47,100
885.4240		Freshwater invertebrate toxicity/pathogenicity, TI	\$47,100
885.4280		Estuarine/marine animal testing, TI	\$50,300
885.4280		Estuarine/marine invertebrate testing, TI	\$50,300
885.4300		Nontarget plant studies, TI	\$42,100
885.4340		Nontarget insect testing, Tier I	\$13,200
885.4340		Non-target Lepidoptera	\$42,300
885.4350		Beneficial soil invertebrate testing - Collembola	\$14,400
885.4380		Honey bee testing	\$13,600
885.4600		Avian chronic pathogenicity and reproduction, TIII	\$219,900
885.4650		Aquatic invertebrate range testing, TIII	\$32,000
885.4700		Fish life cycle studies, TIII	\$314,200
885.4750		Aquatic ecosystem test	\$439,800
885.5200		Terrestrial environmental expression tests	\$119,400
885.5300		Freshwater environmental expression test	NA
885.5400		Marine or estuarine environmental expression tests	\$119,400
	NA	OECD unique identifier for transformation event	\$300
	NA	Appropriate identifier for active and inert ingredient(s) (e.g., name or designation)	\$300
	NA	Identification of transformation event and PIP ingredients (combination of OECD unique identifier for transformation event and Appropriate identifier for active and inert ingredient(s))	\$600
	NA	Biology of the plant	\$3,500
	NA	Biology of the plant	\$18,500
	NA	Description of the intended trait	\$300
	NA	Expression level in plant	\$349,800
	NA	Characterization of protein (active/inert)	\$88,300
	NA	· Spectrum of pesticidal activity · Mode of action · Characterization of expressed substance(s) (molecular characterization data) (combination of Description of the intended trait, Expression level in plant, and Characterization of protein (active/inert))	\$146,100
	NA	Transformation system	\$1,000
	NA	Certification of limits	\$300
	NA	Analytical detection method	\$72,700
	NA	Submittal of samples	\$500
	NA	Characterization of inserted DNA	\$2,100
	NA	Inheritance and stability	\$300
	NA	Characterization of inserted DNA (combination of Characterization of inserted DNA & Inheritance and stability)	\$2,400
	NA	Surrogate protein production	\$25,200
	NA	Acute oral toxicity	\$50,000
	NA	Toxicity of substances other than proteins	NA
	NA	Protein Digestion via Kinetic Enzyme	\$138,800
	NA	Quantified concentration of protein produced in various tissues, e.g., leaf, seed, fruit, pollen, and whole plant by Western blot or ELISA	\$62,200
	NA	Laboratory and/or greenhouse testing to determine sexual compatibility/ability to form a viable hybrid between the modified crop plant and wild or weedy relatives in the United States. Testing would begin with the most closely related species in the same family that occur in the area of cultivation.	\$91,700
	NA	Description of propensity of the crop plant to naturalize, including extent of existing feral populations (In most cases, sufficient information can be obtained from literature searches and/or consultations with breeders. Field surveys may be required in some instances.)	\$18,300
	NA	Outcrossing potential – information on potential outcrossing with all wild or weedy relatives with which the transformed plant can form viable hybrids in nature, e.g., degree of sexual compatibility, degree of overlap in the geographic distribution of relatives and crop cultivation areas, phenology assessment. (Information can be based upon literature, field experts, breeders, etc.)	\$4,300
	NA	Reproductive timing and output, e.g., timing of flowering and seed set and amount of seed produced; for root crops including also size, mass, and shape of tubers at harvest time. Stability of the acquired transgene in the hybrids and their progeny.	\$25,400
	NA	Studies to evaluate the potential impact of transgene introgression, for example: · plant community dynamics modeling (with hybrids and plants expected in the communities in which the hybrids exist). · plant competition growth chamber studies, e.g., series replacement under controlled conditions. · plant competition mesocosm studies (with hybrids and plants expected in the communities in which the hybrids exist). · field studies, e.g., to investigate impact of virus infection on wild or weedy relatives of the modified plant.	\$1,833,700
	NA	Bioinformatic amino acid sequence comparison of short contiguous amino acid segments using an allergen database to identify any allergens containing identical short sequences.	\$9,200
	NA	Bioinformatic amino acid sequence search for overall similarity with known toxins and allergens.	\$7,300
	NA	Bioinformatic amino acid sequence analysis (comparison to toxins) (also called a global amino acid sequence comparison)	\$3,900

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	NA	In vitro digestibility in simulated gastric fluid and simulated intestinal fluid (as defined in the U.S. Pharmacopeia).	\$42,800
	NA	Assessment of heat stability/labability.	\$33,600
	NA	Allergenicity Information: specific serum-binding study	\$129,300
	NA	Allergenicity Info: in vitro digestibility in SGF	\$38,900
	NA	Allergenicity Info: Assessment of heat stability/labability	\$30,500
	NA	Allergenicity Info: Bioinformatic amino acid sequence analysis (comparison to allergens)	\$3,900
	NA	Toxicity and Allergenicity info: in vitro digestibility in SIF	\$38,900
	NA	Allergenicity analysis (combination of in vitro digestibility in SGF, Assessment of heat stability/labability, Bioinformatic amino acid sequence analysis (comparison to allergens), and in vitro digestibility in SIF)	\$112,200
	NA	90-day oral toxicity	\$153,400
	NA	Specific serum binding test	\$122,200
	NA	Hypersensitivity incidents	\$900
	NA	Wild mammal oral toxicity	\$50,000
	NA	Avian single-dose oral LD50	\$11,200
	NA	Avian oral toxicity (note: the cost of this is equivalent to two avian single-dose LD50s)	\$22,400
	NA	Avian dietary toxicity	\$7,200
	NA	Freshwater fish oral toxicity	\$13,300
	NA	Freshwater invertebrate testing (aka Freshwater invertebrate - toxicity)	\$41,600
	NA	Estuarine and marine animal toxicity	\$44,400
	NA	Honey bee testing - Apis mellifera (larvae)	\$32,200
	NA	Honey bee testing - Apis mellifera (adult)	\$12,900
	NA	Nontarget insect testing- Ladybird beetles	\$16,600
	NA	Nontarget insect testing- Parasitic Hymenoptera	\$16,600
	NA	Nontarget insect testing- Predaceous Neuropteran	\$16,600
	NA	Nontarget insect testing - Lepidoptera	\$16,600
	NA	Nontarget insect testing - Predaceous Hemiptera	\$16,600
	NA	Non-Target Hemiptera Study	\$44,400
	NA	Non-target insect testing - Coleoptera	\$16,600
	NA	Arthropod - toxicity (combination of all nontarget insect testing tests)	\$49,700
	NA	Non-target Arthropod Study (3 species)	\$133,300
	NA	Beneficial soil invertebrate testing- Collembola	\$13,600
	NA	Beneficial soil invertebrate testing- Earthworm	\$13,600
	NA	Nonarthropod invertebrate - toxicity (for a single species) (combination of Beneficial soil invertebrate testing for Collembola and Earthworms)	\$13,600
	NA	Nontarget plant studies (aka plant studies)	\$39,700
	NA	Soil microbial community toxicity test	\$14,800
	NA	Tritrophic testing of selected beneficial insects	\$101,600
	NA	Tritrophic Testing of Selected Beneficial Insects	\$329,500
	NA	Protein synthesis inhibition study	\$141,800
	NA	Lack of association of proteins in solution	\$4,000
	NA	Plant tissue testing	\$4,700
	NA	Plant tissue testing (reflected in NTO data costs)	\$28,700
	NA	Endangered species exposure determination	\$73,000
	NA	Semi-field studies	\$369,500
	NA	Semi-field Study on Honey Bees	\$127,600
	NA	Degradation rate in the environment	\$377,600
	NA	Field persistence	\$104,600
	NA	Environmental Fate – Field Persistence	\$1,373,000
	NA	Field studies	\$235,100
	NA	Additive effects - synergy study	\$27,000
	NA	Potential for vertical gene flow	\$61,700
	NA	Potential for horizontal gene transfer	\$39,700
	NA	Potential for horizontal gene transfer (lab estimate)	\$6,100
	NA	Evaluation of environmental impacts of gene flow between sexually compatible plants	\$111,600
	NA	Potential for weediness	\$213,100
	NA	Evaluation of potential weediness	\$0
	NA	Target pest biology and ecology	\$15,300
	NA	Target organism biology and ecology	\$447,000
	NA	Target organism susceptibility - above ground target	\$362,000
	NA	Target organism susceptibility - below ground target	\$262,400
	NA	Dose expression for the target pests	\$417,700
	NA	Potential for cross resistance	\$22,700
	NA	Potential for cross resistance	\$278,200
	NA	Simulation models to predict PIP durability and evaluate resistance management options	\$82,300
	NA	Development and implementation of a resistance monitoring plan to detect potential resistance to the PIP in the field	\$85,100
	NA	Development and implementation of a resistance monitoring plan to detect potential resistance to the PIP in the field	\$1,119,300

Test Guideline	Guideline Section or NA*	Test Name	Average Test Cost Adjusted for Inflation to 2016
	NA	Development and implementation of a resistance monitoring plan to detect potential resistance to the PIP in the field - Plan Development Cost	\$629,500
	NA	Development and implementation of a resistance monitoring plan to detect potential resistance to the PIP in the field - Implementation Monitoring, Reporting	\$86,500
	NA	Development and implementation of a resistance monitoring plan to detect potential resistance to the PIP in the field - Bioassays	\$360,700
	NA	Development and implementation of a resistance monitoring plan to detect potential resistance to the PIP in the field - Annual Reporting	\$63,900
	NA	Resistance monitoring plan	\$1,669,200
	NA	Development of a remedial action plan to mitigate potential resistance to the PIP in the field	\$11,300
	NA	Development of a refuge compliance plan	\$4,500
	NA	Development of a grower education program	\$470,300
	NA	Annual reporting	\$73,800
	NA	Independent lab validation of an analytical method	\$18,900
	NA	If an analytical method for residue exists - analytical method for soil and/or water	\$16,700
	NA	If an analytical method for residue exists - independent lab validation of the completed analytical methods	\$18,900
	NA	Human Subjects Review Board Costs	\$29,200

Source: EPA Estimates