



Evaluation Report for Category B, Subcategory 2.3, 2.4, 3.10, 3.11, 3.12 Application

Application Number:	2010-5290
Application:	B.2.3 – New identity of formulants B.2.4 – New proportion of formulants B.3.10 – New tankmix B.3.11 – New pests B.3.12 – New site or host
Product:	Stress Shield 600
Registration Number:	30668
Active ingredients (a.i.):	Imidacloprid
PMRA Document Number:	2257716

Purpose of Application

The purpose of this application was to register a new systemic insecticide, Stress Shield 600 (600 g/L imidacloprid) for use as a seed treatment on listed cereals and legumes, including soybeans, to control specific insect pests.

Chemistry Assessment

Stress Shield 600 is formulated as a suspension containing imidacloprid at a nominal concentration of 600 g/L. This end-use product has a density of 1.23 g/mL and pH of 7.25. The chemistry requirements for Stress Shield 600 are complete.

Health Assessments

Stress Shield 600 is considered to be moderately acutely toxic via the oral route ($500 < LD_{50} < 825$ mg/kg bw), of low acute toxicity via the dermal route ($LD_{50} > 2000$ mg/kg bw), and slightly toxic via the inhalation route ($1.02 < LC_{50} < 2.02$ mg/L) in rats. It is minimally irritating to the eyes and non-irritating to the skin, and is not a dermal sensitizer.

Stress Shield 600 is a formulation containing the currently registered active ingredient imidacloprid. Following review of data for imidacloprid, it has been concluded that registration of Stress Shield 600 for use as a seed treatment on wheat, barley, oats, crop subgroup 6A edible-podded legume vegetables (except peas), crop subgroup 6C dried shelled pea and bean (except soybeans and dry shelled peas), soybeans, chickpeas, lentils, field peas and fababeans will pose no increase in dietary exposure to any segment of the population.

A human health risk assessment was completed for Stress Shield 600, containing imidacloprid at 600 g/L to support the registration as a seed treatment on cereals, soybeans, chick peas, field peas, fababeans, lentils and crop subgroup 6A: edible-podded legume vegetables (except peas) and crop subgroup 6C: dried shelled pea and bean (except soybeans and dry shelled peas). Worker exposure is not expected to increase over the exposure from the currently registered products containing imidacloprid provided appropriate personal protective equipment is used.

Environmental Assessment

The active ingredient, imidacloprid, is fully registered as both a foliar insecticide and systemic seed treatment insecticide. The registration of Stress Shield 600 Insecticide is considered acceptable.

Value Assessment

A combination of field trials (3 on barley and wheat, 3 on peas, 18 on soybean) and extrapolation from currently registered products was used to support the following claims:

Crop	Pest	Application Rate ml product (g a.i.)/100 kg seed
Wheat (durum, spring, winter)	Wireworm	17-50 (10-30)
Barley (spring, winter)		
Oats		
Crop Subgroup 6A: Edible-podded legume vegetables (except peas) <u>Bean (Phaseolus spp.)</u> -includes runner bean, snap bean, wax bean, <u>Bean (Vigna spp.)</u> -includes asparagus bean, Chinese longbean, moth bean, yardlong bean, <u>Jackbean</u>	Potato leafhopper	104 (62.5 g a.i.)
	Wireworm	
Crop Subgroup 6C: Dried Shelled Pea and Bean (except soybeans and dry shelled peas) <u>Bean (Lupinus spp.)</u> -includes grain lupin, sweet lupin, white lupin, white sweet lupin, <u>Bean (Phaseolus spp.)</u> -includes field bean (dry common and coloured) such as kidney, black cranberry pink and navy bean, lima bean, pinto bean, tepary bean, <u>Bean (Vigna spp.)</u> -includes adzuki bean, blackeyed pea, catjang, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, <u>Broad bean (fava bean)</u>	Potato leafhopper	104 (62.5 g a.i.)
	Wireworm	
Soybeans	Soybean aphid Bean leaf beetle Seedcorn maggot Wireworm	104-208 (62.5-125 g a.i.)

Chickpeas	Wireworm	104 (62.5)
Lentils	Wireworm	104 (62.5)
Field peas	Pea leaf weevil	104-208 (62.5-125)
	Wireworm	104 (62.5)
Fababean	Pea leaf weevil	104 (62.5)

Crop tolerance data were provided for wheat, barley, oats, field peas, dry beans, chickpeas and soybeans. No phytotoxic effects were observed.

Tank mixtures of Stress Shield 600 with Raxil T and Raxil MD for control of certain seed and soil borne pathogens in wheat, barley and oat seeds and seedlings and Stress Shield 600 with Trilex AL, Trilex AL Concentrate, Trilex FS, Allegiance, Apron Maxx RFC and Apron Maxx RTA for control of certain seed and soil-borne pathogens in legume seeds and seedlings were supported based on the submitted efficacy and crop tolerance data and rationales.

Conclusion

The PMRA has reviewed the information provided in support of this application and has determined Stress Shield 600 is acceptable for full registration.

References

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