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ATRAZINE REVIEW BACKGROUND

Atrazine is a selective systemic herbicide that can be used both pre- and post-emergence for the control of grass and broadleaf weeds. It is mainly absorbed through the roots of plants and then carried to the actively growing tips and leaves, although some foliar absorption occurs. Atrazine kills the plant by inhibiting photosynthesis.

In Australia, atrazine is used to control weeds in summer crops such as sorghum, maize and sugarcane, and it is also widely used in Western Australia to control weeds in lupins. Other uses include control of weeds in lucerne, grass seed, pasture and potatoes. Atrazine is important in the establishment of pine and eucalypt plantations and for control of parthenium weed in Queensland, the Northern Territory and northern parts of New South Wales. Atrazine is also applied to triazine tolerant (TT) canola, including raised bed cropping in higher rainfall areas in Australia.

As of February 2008 there were 48 registered products and seven active constituent approvals (refer to Appendices A & B).

The review of atrazine was announced in December 1995 as part of the APVMA's first cycle of chemical reviews. The active constituent atrazine, products containing atrazine, and their product labels were placed under review due to concerns over:

- human and animal carcinogenicity claims;
- moderate potential chronic toxicity risk;
- potential to contaminate ground and surface water;
- absence of maximum residue limits (MRLs) for major commodities; and
- reported breakdown in efficacy.

While these were the major reasons why a high priority was given to the review of atrazine, the scope of the review covered all considerations relevant to the continued registration and approval of atrazine.

There was a high level of public interest in the APVMA's review, with over 150 submissions received in response to the initial review announcement and call for information. The APVMA released a report in November 1997 and took regulatory action following public consultation to address the report findings, which were based on the assessment of all information available.

The 1997 report concluded that there were no major toxicological concerns relating to the use of atrazine and moreover, that atrazine posed no undue hazard to most users. As well, new conditions for use of atrazine were implemented in order to reduce

chemical handling by workers, and reduce drift and runoff into waterways. However, additional environmental monitoring data and residue data were required to address remaining concerns related to the potential risk atrazine's use posed to the environment and the validity of a number of maximum residue limits (MRLs). An MRL is the maximum concentration of a chemical residue that is permitted in or on a food or food commodity.

Registrants were given up to three years to generate the required environmental monitoring data and residue data. Assessment of these data led to the development of a draft final report, which was released for public comment in April 2002. A second draft final report was published in October 2004. These reports included amended findings and proposed regulatory approach, based on the assessment of new information, including the required residue and environmental data and new published studies.

New overseas studies were published after 2004, or foreshadowed in 2004, that raised additional concerns that atrazine might cause adverse developmental and reproductive effects, particularly in frogs. Because of emerging information, the APVMA delayed finalisation of the review and revisited the toxicological and environmental risks of using atrazine.

Some of the research work now becoming available has been contradictory and controversial. In the expectation that resolution of the scientific debate would occur, the APVMA reserved judgement to allow time for a clearer scientific consensus to develop.

Although it is clear further studies will be forthcoming, the APVMA has now decided to finalise its review of atrazine and undertake regulatory action based on the available information at this time.

Most of the regulatory outcomes detailed in this report were proposed in the 2004 report. The APVMA also proposes to determine that the risk of atrazine entering waterways at harmful levels when used post-emergence on TT canola, when grown on raised beds, may be unacceptable. However, because this proposed finding is based on limited information which became available after 2004, the APVMA has determined that it is appropriate to require that additional data be generated so that it can further evaluate this concern.

Registrants who have a product whose label specifies a claim for weed control on TT canola will be required to either generate additional data or include an additional label restraint that specifies that atrazine must not be used post-emergence on TT canola grown on raised beds.