

## **Part I**

1. Atrazine alters male frog development in a certain concentration.
2. 0.1 micrograms/liter
3. DDT's situation relates to the US's use of atrazine because the EPA was considering bringing back the herbicide to US markets. DDT was considered as a hazard in some countries and was banned by the US, but some countries continued to use it. This same situation is happening to atrazine, since countries like Germany and France have banned the chemical, while the US still uses it with little information on its effects.

## **Part II**

1. James Carr's experiment on the effects of atrazine on the gonad development of male frogs was proven to be inaccurate due to the control area (the population of tadpoles with 0 applied atrazine) having still suffered from developmental abnormalities, while some trials with applied atrazine yielded no changes.
2. The Hayes study led to more valid experimental results, since Hayes used pond water, a tadpole's natural environment, in his trials. Dechlorinated laboratory water might have been the cause of the invalid results.
3. The Carr data shows that male frogs exhibit sexual changes in both high concentration of atrazine and low to none concentrations. This may have been caused by the water in which the tests were conducted in, as dechlorinated water may have affected the development of the tadpoles (which is why the control group 0 has developmental abnormalities).

## **Part III**

1. The Hayes results indicate that atrazine increases the likelihood of gonadal abnormalities happening in frogs.
2. The MSU results indicate that atrazine decreases testosterone concentration in frogs.
3. The small amount of atrazine present in the control group in the MSU study might have caused more accurate results because the frogs may have had different health conditions prior to the experiment. The atrazine might have "leveled out" the frogs to obtain more accurate results.
4. The control group's minimal exposure to atrazine may have caused Syngenta to try and justify the use of the herbicide by stating that in small amounts, no real damage can be done.
5. FOR - agsense.org: agsense supports the use of atrazine by mentioning the increased employment and availability of jobs due to the lack of invasive weeds that are killed by the herbicide. The website also mentions the economic benefits that weed killing could produce.

NCGA: The NCGA supports the use of atrazine by acknowledging the numerous scientific trials that have proved atrazine to be safe. The NCGA also mentions the stringent safety requirements that concern atrazine.

AGAINST – [aldf.org](http://aldf.org): The ALDF states that the use of atrazine will pose a risk to wildlife, as shown in the frog trials. They also justify the ban of atrazine by listing the countries that have banned the chemical, including the whole European Union.

Ecowatch: Ecowatch justifies the ban by stating that castration in frogs may cause the same effect on humans if the dosage is high enough. The site also states the link between atrazine and thyroid cancer and birth defects.