

Supplemental Table 1: Categorization of Outcomes measured in included Atrazine studies

1. Developmental Abnormalities/Mortality
Abnormal development in the offspring
Gonad abnormality
Left -to-right testis ratio
2. Growth
Fat body size
Fish length
Body length
Growth length
Length
Smolt length
Smolt weight
Snout to vent length
Terminal body length
Mass of f2 larvae
Mass of versicolor tadpoles
3 month growth rate in offspring
Birth weight
Larvae wet weight
ash free dry weight
larval period (days)
Percent survival metamorphosis
Proportion of tadpoles initiate metamorphosis

3. Time to Developmental Landmark
Number of days between cessation of treatment and first prooosterus
Time to metamorphosis
age at metamorphosis
age at preputial separation
days to reach stage 66 of first larva
duration of time between maturity achievement
time to reach stage 42
time to TR
4. Organ weight / size
absolute testis weight
Gonad surface area
anogenital index
Diameter of immature follicles
Diameter of mature follicles
Diameter: testis weight (ratio)
Laryngeal muscle area
Ovary weight
Oviduct weight
Prostate weight
Ratio of testis to body weight
Relative adrenal weight
Seminal vesicle weight
Uterus weight

Ventral prostate weight
Vesicle weight
Hepatosomatic index
Gonadal somatic index
Breeding gland area
5. Developmental enzymes
aromatase activity
gonad aromatase
mRNA of aromatase in brain
mRNA of luteinizing hormone in brain
mRNA of follicle stimulating hormone
6. Reproductive hormones
Circulating concentrations of estradiol
Circulating concentrations of luteinizing hormone (LH)
Circulating concentrations of testosterone
Estradiol concentration
Intratesticular testosterone concentration
Plasma aldosterone
Plasma corticosterone
Plasma E2
Plasma estradiol
Plasma LH
Plasma testosterone
Serum androstenedione

Serum estradiol
Serum estrone
Serum prolactin
Serum testosterone
Testicular estradiol
Testicular testosterone
7. Reproductive ability
Fecundity
Fertility
Fertilization rate
Hatch success
Locomotion activity
Mass corrected number of eggs released per female
Molting period
Number of mating attempts
Abnormal sperm rate
Daily sperm rate
Daily sperm/testes
Sperm motility
Sperm / area
Number of eggs
Number of embryos
Number of offspring
Number of spawns

Number of testicular ovarian follicles
Display of courtship
Number of implantations
Percent adult emergence
Percent hatch of eggs
Percent postimplant loss
Percent preimplant loss
Rate of travel
Resting spermatogonia
Seminiferous tubule diameter
Sex ratio
Spermatids
Spermatogonia
Percent survival in different frog species
Swimming speed
Total offspring
Dead sperm
Epidymal sperm number
Number of corpora lutea

Supplemental Table 2: Outcome Groups and Direction of Harm

HARMFUL DIRECTION- INCREASE	HARMFUL DIRECTION- DECREASE
Developmental Abnormalities/Mortality	
Abnormal development – in the offspring	-
Gonad abnormality	-
Time to Developmental Landmark	
Number of days between cessation of tx and first prooosterus	-
Time to metamorphosis	-
age at metamorph	-
age at preputial separation	-
days to reach stage 66 of first larva	-
duration of time between maturity achievement	-
time to reach stage 42	-
time to TR	-
Organ weight / size	
Diameter of immature follicles	absolute testis weight
Diameter of mature follicles	Gonad surface area
Relative adrenal weight	anogenital index
Hepatosomatic index	Diameter: testis weight (ratio)
-	Laryngeal muscle area

-	Ovary weight
-	Oviduct weight
-	Prostate weight
-	Ratio of testis to body weight
-	Seminal vesicle weight
-	Uterus weight
-	Ventral prostate weight
-	Vesicle weight
-	Gonadal somatic index
-	Breeding gland area
Reproductive hormones	
Circulating concentrations of estradiol	Circulating concentrations of luteinizing hormone (LH)
Estradiol concentration	Circulating concentrations of testosterone
plasma corticosterone	Intratesticular testosterone concentration
plasma E2	plasma aldosterone
plasma estradiol	plasma LH
serum estradiol	plasma testosterone
serum estrone	serum testosterone
testicular estradiol	testicular testosterone
Reproductive ability	
Molting period	Fecundity
Abnormal sperm rate	Fertility

Number of testicular ovarian follicles	Fertilization rate
Percent postimplant loss	Hatch success
Percent preimplant loss	Locomotion activity
Dead sperm	Mass corrected number of eggs released per female
-	Number of mating attempts
-	Daily sperm rate
-	Daily sperm/testes
-	Sperm motility
-	Sperm / area
-	Number of eggs
-	Number of embryos
-	Number of offspring
-	Number of spawns
-	Display of courtship
-	Number of implantations
-	Percent adult emergence
-	Percent hatch of eggs
-	Rate of travel
-	Resting spermatogonia
-	Seminiferous tubule diameter
-	Spermatids
-	Spermatogonia
-	Swimming speed

-	Total offspring
-	Epidymal sperm number
Growth	
-	Fat body size
-	Fish length
-	Body length
-	Growth length
-	Length
-	Smolt length
-	Smolt weight
-	Snout to vent length
-	Terminal body length
-	Mass of f2 larvae
-	Mass of versicolor tadpoles
-	3 month growth rate – in offspring
-	Birth weight
-	Larvae wet weight
-	ash free dry weight
-	larval period (days)
-	Percent survival metamorph
-	Proportion of tadpoles initiate metamorph
Developmental enzymes	
-	aromatase activity

-	gonad aromatase
-	mRNA of aromatase in brain
-	mRNA of luteinizing hormone in brain
-	mRNA of follicle stimulating hormone