Appendix M. Diuron Incidents

Terrestrial Incidents

I013884-004 REGISTERD USE
4/22/1998 WA Highly Probable Likelihood
This is from the 1999 Annual Report from the Washington State Department of Health Pesticide Incident Reporting and Tracking Review Panel, November 2000, from the 1998 PIRT Data. Product applied last fall was carried by runoff, came across street and damaged three yards with in two weeks.

I013194-001 UNDETERMINED LEGALITY
2002 ND Possible Likelihood
DuPont reported a complaint from an applicator in Cooperstown, ND, that a farmer complained that his 10-acre sugar beet crop had been damaged. The applicator had applied a mixture of OUST (at 3 oz) and KARMEX (at 8 lbs) with 15 gallons of water, to a railroad right-of-way between Grafton and Glaston, ND. The farmer alleged that drift from this application caused stunting of his sugar beets and failure to sprout.
The exact date of the incident is not known, but DuPont first learned of it on July 2, 2002.

I0144700-001 REGISTERD USE
2004 OK Possible Likelihood
An alleged runoff from treated substations of OGE effected strips of sod downhill from the application. Treatment was bare ground at 12 pounds per acre. Weather records indicated that these areas received heavy rains in May, which may have caused the runoff. There was a severe drought in the summer.

I015796-001 REGISTERD USE
2004 KY Possible Likelihood
To comply with 6(a)2 requirements, DuPont reported a claim from a landowner in western Kentucky that, for two years in a row, an application of DuPont Oust XP Herbicide plus Diuron to an area around a utility substation resulted in runoff that damaged his corn crop. The landowner had a soil test made which found traces of Diuron. No symptoms of the affected crop were given.

I014177-001 REGISTERD USE
2002 CA Possible Likelihood
This is a Superior Court of California case. The plaintiff alleges that KROVAR I DF herbicide (Bromacil + Diuron) damaged their red bell pepper crop. KROVAR was applied in January 1998 to Tangerine orchard. In the summer of 2000, the tangerines were harvested and the trees removed. Early fall 2001, the field was irrigated and planted with 30 pounds of barley per acre. December 2001, the barley was discarded after reaching approx.... 6 inches in height with no visible problems. On January 14, 2002, the soil was prepared for planting and the red bell pepper crop was planted. This is four years after the application of KROVER to an orchard. In March 2002, it was noticed that a majority of the bell pepper seeds were not producing a plant, and plants that were

growing, were stunted. After it was noticed that the plants were not growing, the plaintiff had analysis of the soil performed. It showed 0.134 ppm of Bromacil. Other bioassays results were not given. At the present time, there are two other incidents which showed carryover of Bromacil from a different product effecting sunflowers.

I013587-020 REGISTERD USE
1998 WA Possible Likelihood
In the 2000-2001 Annual Report of the Pesticide Incident Reporting and Tracking (PIRT) Review Panel of Washington State, an incident that took place on March 2, 1998 in Adams County is reported. A combination of Bromacil and Diuron was applied, presumably to a right-of-way, but at some time in 1999 a row of evergreens along side the damaged party's home were dying. No residues were detected in the foliage samples that were taken, but a trace of one pesticide was found in the right-of-way. No pesticides were found outside of the right-of-way. The affected trees were located within 30 degrees of the right-of-way. This is listed as a Severity 1 type of incident but there is nothing in the report to indicate the meaning of that. No action was indicated.

I013850-001 REGISTERD USE
2002 MI Possible Likelihood
An Ohio based applicator used a railroad vehicle with flood jet and boom buster nozzles for the application of three products to railroad tracks on May 24, 2002. The products were Krovar IDF Herbicide, Roundup Original and Weeder IV. A resident next to the railroad reported that a third of the backyard was turning brown and dying.

I015278-001 REGISTERD USE
2003 OR Probable Likelihood
This 6(a)(2) reported by Griffin LLC is one of the most complete incident I have seen. Gives history of the field from April 1990 to June 2003 when the symptoms appeared. There were several applications of many different herbicides during this period. The first applications were on April 2, 1990 to an asparagus crop. In 2000, there was another application to asparagus. The field was left fallow for 2001 and 2002 with out any herbicides being applied. The field was prepared for potatoes in the spring of 2003 and several more applications of herbicides, April 1, April 25 and May 10. The report from the fieldsman was that the crop emerged normally, but began to show chlorosis before row closure. On June 20, 2003 it became evident that the plants were dying. The fieldsman took composite soil samples for analysis of diuron, linuron, terbacil and simazine. Only diuronwas detected at 0.1 ppm. Additional testing show detections of pendimethalin, trifluralin, chlorpyrifos diuron, and DCPMU (primary metabolite of diuron).

I007269-002 REGISTERD USE
1998 TN Probable Likelihood
There was runoff from a utility substation of a pesticide that allegedly adversely affected nontarget plants such as grass/yard from storm water as a result of off-target movement.

I016429-001 REGISTERD USE
2005 WA Probable Likelihood
To comply with 6(a)2 requirements, DuPont reported an incident in Ephrata, WA, in which DuPont's product Oust XP Herbicde and Griffin's product Karmex Herbicide wer alleged to have damaged several different crops. The herbicides were applied to bare soil on an equipment parking lot, after which windy conditions caused them to move to neighboring fields of potatoes and sweet corn, and to a research farm. Damage was said to have occurred to 15 acres of potatoes, 10 acres of sweet corn, and possibly some pesticide research trails. No specific symptoms were mentioned.

Wind gusts up to 40 miles per hour occurred on three days, so it is entirely credible that these potent herbicides migrated through wind-borne soil particles to caused extensive damage. Oust, in particular, is known to caused extensive damage from drift of soil.

I018428-010 REGISTERD USE
2006 CA Probable Likelihood
Diuron application to an embankment around a 298 acres field that was to be planted with celery resulted in a drift to the field. Celery transplants were planted in the field, and some time later, plant damage was observed. Grower estimated that 4 acres were unsuitable for harvest. Soil samples from the field found 0.4 ppm of Diuron.

I005972-001 REGISTERD USE
1997 TX Probable Likelihood
Allegedly, the pesticide compounds in run-off from an adjacent plant site did injury to an individual's three (3) live oaks approximately 10 to 30 years old, subsequent to treatment by his neighbors application which affected his (individuals) property.

B0000-300-45 UNDETERMINED LEGALITY
1972 OK Possible Likelihood
There was reported damage to a number of vegetable plants in Oklahoma in 1972 as the result of the drift of MSMA, 2,4-D, and Karmex from spraying of a railroad right of way. It was not definitely established that these pesticides were the cause of the damage. The last report of application of pesticicdes was March 29 and the damage was reported on June 3.

I013194-001 UNDETERMINED LEGALITY
2002 ND Possible Likelihood
To comply with 6(a)2 requirements, DuPont reported a complaint from an applicator in Cooperstown, ND, that a farmer complained that his 10-acre sugar beet crop had been damaged. The applicator had applied a mixture of OUST (at 3 oz) and KARMEX (at 8 lbs) with 15 gallons of water, to a railroad right-of-way between Grafton and Glaston, ND. The farmer alleged that drift from this application caused stunting of his sugar beets and failure to sprout. The exact date of the incident is not known, but DuPont first learned of it on July 2, 2002.

I014407-013 UNDETERMINED LEGALITY
1994 WA Possible Likelihood
In its 1995 Annual Report, the WA Dept. of Agri. included an incident from Whitman County in which peas were damaged along a highway. A sample that was taken tested positively for diuron. Chlorotic patches were observed by did not appear to be consistent with exposure to a herbicide. The cause is unknown, but it would seem that if diuron was detected, it had a bearing on the case.

I016302-001 UNDETERMINED LEGALITY
2005 WA Possible Likelihood
To comply with 6(a)2 requirements, DuPont reported an incident near Moses Lake, WA, in which a farmer's grass and wheat were allegedly damaged as the result of roadsie spraying with Oust and Diuron. The symptoms were not described and the area affected was less than an acre.
There is a slope from the area treated down to the area that was affected. However, no herbicidal activity seemed to have occurred in the grass on the County right-of-way between the edge of the spray pattern and the farmer's property. Therefore, there could have been runoff as well as spray drift. With Oust, the majority of damage cases seem to have been the result of spray drift.

I014409-062 UNDETERMINED LEGALITY
1992 WA Possible Likelihood
This incident was reported in the Washington State Dept. of Health Annual Report 1993, Pesticide Incident Reporting Review Panel, April 1994, prepared by the Washington State Department of Agriculture. A commercial applicator unknowingly mixed oryzalin and bromacil/diuron and made application. Damaged trees and shrubs. No analysis nor any State action.

I015382-001 UNDETERMINED LEGALITY
2004 WY Probable Likelihood
To comply with 6(a)2 requirements, DuPont reported an incident in Wyoming (location not mentioned) in which Krovar was applied to some weeds, after which a large rain came and washed the product down a 200 foot embankment. The result was stated as "Now grass in his yard has turned brown and trees in his neighbor's yard are starting to turn brown." Evidently it was an instance of large runoff.

I018527-001 UNDETERMINED LEGALITY
2007 WY Highly Probable
Dupont Krover and Karmex Herbicides containing ingredients bromacil and diuron that were sprayed to control vegetation at an industrial site (Key Energy) caused damage to trees belonging to a private home owner adjacent to the spray site. Soil and plant tissue analyses were performed and detected the presence of bromacil and diuron in soil around trees.

I000022-001 UNDETERMINED LEGALITY
1992 SC Probable Likelihood

1. Alleged mixed herbicidal spray application onto a fence row drifted onto adjacent birdnest boxes and caused a bird kill of nestling and mature birds located from two to 85 ft from the application site.
2. According to the incident report the pesticide application also drifted, or ran off, onto a pond, 60 ft away and caused a fish and algae kill.
3. The spray application, a mixture of Arsenal, Diuron (as Karmex) and Metsulfuron methyl (as Escort), was used at the Dept. of Energy, Westinghouse Savannah River Site of Nuclear Weapons in Aikens Co., SC.

I016036-024 REGISTERD USE
2004 CA Probable Likelihood
The CA Dept. of Pesticide Registration reported that 53 acres of lettuce were damaged, the estimated loss being $90,000, by spray drift of Def and Dropp Ultra that was applied to a cotton field nearby. Warrior W had been applied to the lettuce. The Riverside County Agricultural Commissioner's Office had an analysis done of the lettuce that showed tribufos(Def) present at 0.05 ppm. That office is continuing to investigate the incident, so the report did not establish the cause of the damage. It is possible that tribufos was responsible because, at least, it was shown to be present.

I018527-001 UNDETERMINED USE
2007 WY Highly Probable Likelihood
Dupont Krover and Karmex Herbicides containing ingredients bromacil and diuron that were sprayed to control vegetation at an industrial site (Key Energy) caused damage to trees belonging to a private home owner adjacent to the spray site. Soil and plant tissue analyses were performed and detected the presence of bromacil and diuron in soil around trees.

Aquatic Incidents

I016362-001 UNDETERMINED LEGALITY
2005 MI Possible Likelihood
Griffin reported an incident in Oxford Point, MI which involved a complaint made by a resident that "diuron" harmed the algae and a Cat-o-Nine Tails in her pond. Here is a part of the report by Griffin: "Allegedly her neighbor used a half a bag of "Diuron" in a half-acre pond (deepest point 6 to 8 feet). She stated that the algae and aquatic plants had died and her Cat-O-Nine Tails looked poor also. She stated that the fish, amphibians, and reptiles appeared to be fine. She wanted information about replanting part of her pond. Griffin/DuPont have no registered labels for use of "Diuron" in/on ponds in the State of

Michigan. Some other State agencies have been granted emergency exemptions by US EPA for control of algae in commercial fish production."

I007154-001 REGISTERD USE
1998 MS Possible Likelihood
A fish kill was possibly generated by a utility company on an alleged off-target incident/water detection movement into a nearby two(2) acre pond from an electric substation. However, on 13 April and 13 May, the Utility stated that copper sulfate had been applied to the pond since the soil application of the pesticide; considered to be relatively non-toxic, based on data from fish studies. DuPont makes the point that in the time frame before copper sulfate application, no sick fish with 'sores' were reported in the pond by the pond owner.

I005925-001 UNDETERMINED LEGALITY
1997 TX Probable Likelihood
This is part of a summary compiled by DuPont regarding instances of fish mortality resulting from the use of diuron. In McKinney, TX, 75 white perch died when DuPont Karmex DF Herbicide was applied directly to a pond.

I005925-014 UNDETERMINED LEGALITY
1995 TX Probable Likelihood
DuPont reported a fish kill in Clenren when diuron was added directly to a pond.

B0000-300-32 UNDETERMINED LEGALITY
1982 SC Probable Likelihood
According to a report by G.I. Scott et al, for EPA Gulf Breeze, there was a fish kill in Hamrick's Pond (Charleston County) on May 17, 1982. Karmex (diuron) was cited as being the pesticide responsible for the event.

I005925-010 UNDETERMINED LEGALITY
1996 OK Possible Likelihood
Diuron had been applied to an agricultural site and the subsequent runoff into a stream feeding a pond resulted in a kill of 12 catfish and bass.

I005925-008 UNDETERMINED LEGALITY
1996 MD Possible Likelihood
DuPont reported this incident in conformity with 6(a)2 regulations. An application of several pesticides, including diuron, was made at a terrestrial site adjacent to a pond. Runoff into the pond following a rainstorm caused the death of approximately 3000 fish. Diuron was probably the cause of the incident.

I013281-008 UNDETERMINED LEGALITY
2002 OK Possible Likelihood
To comply with 6(a)2 requirements, Dow reported an incident in Beggs, OK, in which about 70 fish were killed in a pond. The owner had applied Diuron 80DF LVM to the pond by diluting 4 cups into 5 gallons of water and emptying that into the pond (0.5 to

0.75 acre). There is doubt about the condition of the water because the city was asked to study the site and see whether sewer water was involved. One water sample was taken but was declared not to contain sewer water. On the other hand, the mayor admitted that the water smelled. It is possible that Diuron was the cause of the problem.