
A BILL FOR AN ACT

RELATING TO VOG.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. In response to the recent increases in
2 emissions from Kilauea's newest vent at Halema'uma'u crater, a
3 House Special Committee on Vog Effects (Committee) was created
4 to bring together experts to examine the effects of vog on the
5 people of the state of Hawaii. The Committee held a series of
6 fact-finding meetings focusing on health and public safety,
7 agriculture, and economic impacts and tourism.

8 At one of the committee meetings, the implications of vog
9 on agriculture were discussed, particularly the destruction of
10 or damage to crops for farmers of protea and chrysanthemum.
11 Flowers and other plants, including protea, irises, and roses,
12 are damaged by high levels of sulfuric acid (SO₂) that may
13 persist for several hours at a time, with incidents occurring
14 every few weeks. Tender, leafy plants appear to be most
15 susceptible to vog, while tropical plants with waxy coatings
16 appear to be protected from the effects of vog. Eucalyptus
17 trees in higher elevations have also been severely defoliated.



1 Sulfuric acid damages stomata on leaves. Flowers incur
2 damage from dew, as SO₂ combined with water produces sulfuric
3 acid.

4 To combat the effects of vog, some farmers have begun
5 independent research on strategies to prevent vog damage. Anti-
6 desiccants have shown good results, but additional research and
7 field studies are needed to develop appropriate procedures for
8 application. Spraying water on plants to wash off volcanic ash
9 and sulfuric acid also seems to work, but frequent use of water
10 increases the likelihood of fungal growth on plants that thrive
11 in drier climates, such as protea. Also, water is an expensive
12 and precious commodity in vog-affected areas. Greenhouses also
13 offer protection, especially if airtight.

14 In addition, various government entities suggested methods
15 to counteract the effects of vog, including the use of:

16 (1) Sodium bicarbonate or potassium bicarbonate to
17 neutralize acid rain; and

18 (2) Paraffin waxes to protect stomata from SO₂.

19 In any case, the legislature finds that additional research on
20 vog-resistant cultivars is necessary.



1 The purpose of this Act is to require the department of
2 agriculture to work with the University of Hawaii, college of
3 tropical agriculture and human resources, to:

- 4 (1) Determine best methods of vog treatment; and
- 5 (2) Find crop varieties that are most resistant to the
6 effects of vog.

7 SECTION 2. The department of agriculture, in consultation
8 with the University of Hawaii college of tropical agriculture
9 and human resources, shall conduct comprehensive research,
10 including controlled experiments and field trials, to:

- 11 (1) Determine the best methods for employing vog
12 treatments such as water, anti-desiccants, and
13 paraffin waxes to prevent vog-damage to plants in vog-
14 affected areas; and
- 15 (2) Find specific varieties of crops more resistant to the
16 effects of vog.

17 In conducting research, the department shall work with
18 farmers in vog-affected areas, to determine which methods and
19 crops are the most effective, efficient, and economic.

20 SECTION 3. There is authorized a federal fund ceiling
21 increase of \$ for the department of agriculture to



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1 accommodate federal funds received under the Homeland Security
2 Grant Program.

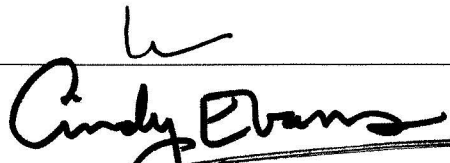




3 SECTION 4. There is appropriated out of the federal funds
4 received under the Homeland Security Grant Program the sum of \$
5 or so much thereof as may be necessary for fiscal year 2009-2010
6 and the same sum or so much thereof as may be necessary for
7 fiscal year 2010-2011 for vog treatments and vog-resistant plant
8 research required in this Act.

9 The sums appropriated shall be expended by the department
10 of agriculture for the purposes of this Act.

11 SECTION 5. This Act shall take effect on July 1, 2009.

12

INTRODUCED BY:

JAN 23 2009



Report Title:

Vog Research; Prevention of Vog Damage

Description:

Requires the Department of Agriculture to work with the University of Hawaii, College of Tropical Agriculture and Human Resources, to determine best methods of vog treatment and research vog-resistant varieties of plants; appropriates funding.

