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## FISCAL IMPACT REPORT

ORIGINAL DATE 02/13/13  
 SPONSOR HAGC LAST UPDATED 03/01/13 HM 42/HAGCS  
 SHORT TITLE Parkinson's Disease & Pesticide Exposure SB \_\_\_\_\_  
 ANALYST Esquibel

### ESTIMATED ADDITIONAL OPERATING BUDGET IMPACT (dollars in thousands)

	FY13	FY14	FY15	3 Year Total Cost	Recurring or Nonrecurring	Fund Affected
<b>Total</b>	\$0.0	Minimal	Minimal	Minimal	Recurring	General Fund

(Parenthesis ( ) Indicate Expenditure Decreases)

### SOURCES OF INFORMATION

LFC Files

#### Responses Received From

Department of Health (DOH)

New Mexico Department of Agriculture (NMDA)

### SUMMARY

#### Synopsis of Bill

The House Agriculture and Water Resources Committee substitute for House Memorial 42 differs from the original memorial in that it did not ask the Department of Health (DOH) for a report, but asked for a presentation of a literature search. The original memorial stated that the New Mexico Department of Agriculture (NMDA) shall report their findings to the DOH. The substitute bill states the same, but also states that the DOH should use the data from the NMDA with scientific literature to prepare a report assessing the risk of pertinent populations of New Mexicans, with recommendations as appropriate.

Further, the substitute proposes the DOH write New Mexico's congressional delegation in support of national legislation to amend the Public Health Service Act in order to: 1) provide for the establishment of permanent national surveillance systems to track the epidemiology of certain neurological diseases, including Parkinson's disease; and 2) facilitate further research of these diseases.

Both the DOH and NMDA would present the results of their studies to the Legislative Health and Human Services Committee by September 1, 2013.

## FISCAL IMPLICATIONS

The DOH states that the activities proposed in HM 42 could be carried out by existing resources and staff of the Epidemiology and Response Division.

The NMDA noted HM 42 does not include an appropriation to conduct the study. Because of data collection issues (noted below in *significant issues*), the NMDA states additional staff, expertise and resources are needed to complete the study.

## SIGNIFICANT ISSUES

The NMDA noted the following difficulties with obtaining the appropriate data and information to conduct the study requested by HM 42:

- Current law does not require collection of pesticide use information and recordkeeping is only required for certain classifications of pesticides. Therefore if conducted, implementation of the study would require extensive research and contact of a large number of people who currently and historically have farmed in New Mexico to obtain the information. General information is available as to the history of pesticides registered in New Mexico, but it does not provide a usable correlation to the use of the products.
- Licensing is not required for all persons applying pesticides. Residential, business, or agricultural use of pesticides classified for general use (96 percent of pesticides currently registered in New Mexico) do not require licensing unless they are applied by a commercial applicator on a for hire basis. Licensing is only required when using pesticides classified federally or by the state as restricted use pesticides. Record keeping requirements only apply to licensed applicators. The NMDA inspects licensed applicators to ensure compliance with recordkeeping requirements but does not collect records unless there is a violation noted. The New Mexico Pesticide Control Act requires application records be maintained for a 2 year period.

According to the DOH, the southwest portion of the state is important from an occupational standpoint that workers be protected from pesticide exposure because it has a large agricultural sector. The DOH's Occupational Health Surveillance Program has worked with farm workers to reduce exposures. For example, a report was produced which focused on farm workers in Dona Ana, Hidalgo, and Luna counties. The report can be found here: [http://nmhealth.org/eheb/documents/Farmworker\\_pest\\_surv2009.pdf](http://nmhealth.org/eheb/documents/Farmworker_pest_surv2009.pdf). One of the conclusions of the report was that there is a need for increased awareness of pesticide hazards among agricultural workers and how they should protect themselves from being exposed.

## OTHER SUBSTANTIVE ISSUES

According to the DOH, pesticide poisoning is a notifiable condition in New Mexico. This means that all physicians, laboratories, health care professionals, and other persons having knowledge of a pesticide poisoning must report the case to the DOH.

The DOH noted Parkinson's disease (PD) is the second most common neurodegenerative disease (after Alzheimer's disease) affecting at least one million Americans and it is estimated to affect nearly 5 million people worldwide. However, there is not a national or state-based surveillance system or registry for PD.

The DOH states that pesticides, mainly insecticides and herbicides, are most typically cited as potential environmental risk factors for Parkinson's disease (PD). One study which tracked specific pesticide exposure in a population indicates that two pesticides resulted in an increased risk for PD: paraquat and rotenone. Paraquat is a herbicide which is highly restricted in the United States, though its use worldwide is very common. Rotenone is an insecticide and has been used to kill fish. Other classes of chemicals such as organochlorines and organophosphates have been linked to Parkinson's but there is limited epidemiologic evidence to support this linkage (Cannon J.R. and Greenamyre J.T.: The role of environmental exposure in neurodegeneration and neurodegenerative diseases. *Toxicological Sciences*, 124(2), 225-250, 2011).

In February 2011, the National Institute of Health (NIH) released a report showing an increased risk of Parkinson's due to exposure to rotenone and paraquat: <http://www.niehs.nih.gov/news/newsroom/releases/2011/february11/index.cfm> (Tanner CM et al.: Rotenone, paraquat and Parkinson's diseases. *Environmental Health Perspectives*, 119(6), 866-72, 2011). This new research shows a link of those two pesticides, rotenone and paraquat, and Parkinson's. People who used either pesticide developed Parkinson's about 2.5 times more often than those who did not use those pesticides. Furthermore, the NIH has recently initiated efforts to find biomarkers for Parkinson's disease (<http://pdp.ninds.nih.gov/>).

The NMDA states it is authorized under the New Mexico Pesticide Control Act (NMPCA) to regulate pesticides in New Mexico. This encompasses all pesticide uses, including agricultural.

The NMDA actively regulates pesticides through the following actions:

- registering all pesticides offered for sale, use or distribution in New Mexico
- licensing pesticide applicators to ensure they are competent to properly apply, mix, store and dispose of pesticides
- conducting routine inspections of licensed applicators to verify compliance
- responding and investigating pesticide related complaints by the public and pursuing enforcement actions when necessary
- assisting with pesticide compliance and education in conjunction with various training and workshop providers, industry groups, and the public.

The NMDA also enforces the federal worker protection standard under a cooperative agreement with the Environmental Protection Agency (EPA) which includes inspections to ensure requirements for training, notification, proper safety and recordkeeping are provided to prevent exposure of agricultural workers to pesticides. The cooperative agreement also includes provisions for water and endangered species protection activities.

RAE/svb:blm