



## Memorandum

To: Proxy Advisory Services  
From: Joan Bavaria, Trillium Asset Management Corporation  
Re: **Proxy Solicitation – Vote Yes for Item No. 5 on Dow Chemical’s 2006 Proxy Ballot**

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Trillium Asset Management is the sponsor of a shareholder resolution at ChevronTexaco that asks the Board of Directors to:

Establish an independent panel, controlling for conflict of interest, to publish by May 2007, at reasonable cost and excluding proprietary information, a report analyzing the extent to which Dow products may cause or exacerbate asthma, and describing public policy initiatives, and Dow policies and activities, to phase out or restrict materials linked with such effects.

A copy of the resolution is attached. We are seeking your support for this resolution.

If you have any questions, please contact Shelley Alpern at Trillium Asset Management, at (617) 423-6655, x 248.

### **Background on asthma and pesticides**

Sixteen million people in the U.S. suffer from asthma.<sup>1</sup> Children are more susceptible than adults. The number of children dying from asthma increased almost threefold from 1979 to 1996.<sup>2</sup> The estimated annual cost of treating childhood asthma is \$3.2 billion.<sup>3</sup>

- According to a 2004 study in *Environmental Health Perspectives*, pesticides are both a trigger and root cause of asthma.
- Researchers discovered that children exposed to herbicides are four and a half times more likely to be diagnosed with asthma before age five; toddlers exposed to insecticides are over two times more likely to get asthma.<sup>4</sup>
- Farmers and pesticide applicators have been found to have higher rates of asthma and other respiratory problems due to their use of pesticides.<sup>5</sup> However, pesticide exposure can also include

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<sup>1</sup> Centers for Disease Control and Prevention. February 27, 2004. *Asthma Prevalence and Control Characteristics by Race/Ethnicity—United States, 2002*. Morbidity and Mortality Weekly Report. 53 (7).

<sup>2</sup> Centers for Disease Control and Prevention, National Center for Environmental Health. August 2005. *Asthma's Impact on Children and Adolescents*, available at <http://www.cdc.gov/asthma/children.htm>.

<sup>3</sup> Ibid.

<sup>4</sup> Salam, MT, YF Li, B Langholz, and FD Gilliland. May 2004. Early-life environmental risk factors for asthma: Findings from the children's health study. *Environmental Health Perspectives* 112 (6): 760-765.

<sup>5</sup> Senthilselvan, A, HH McDuffie, and JA Dosman. 1992. *Association of asthma with use of pesticides. Results of a cross-sectional survey of farmers*. American Review of Respiratory Disease. 146 (4): 884-7; Royce, S, P Wald, D Sheppard, and J Balms. 1993. *Occupational asthma in a pesticides manufacturing worker*. Chest 103: 295-296;

- home and garden use, occupational use by a household member or living in proximity to a treated field. Pesticides are also commonly applied in urban areas.
- People with asthma are especially sensitive to pesticides and at risk of attacks when exposed to even small amounts.<sup>6</sup>

## **Dow pesticides put shareholder value at risk**

As our resolution states, about one-half of Dow's end-use pesticide products (73 of 149) may be linked to asthma and other respiratory problems through active or inert ingredients or metabolites. Common Dow pesticide products with ingredients linked to respiratory problems include: FulTime, Dursban, Glyphomax, Tordon, Telone, Starane, Dithane, Widematch and more. (For a detailed list of Dow products containing asthmagens – chemicals known to cause asthma – visit the Association of Occupational and Environmental Clinics at [www.aoec.org/tools.htm](http://www.aoec.org/tools.htm) and click on “exposure codes”).

Consider these examples:

- Dow is the sole US producer of 2,4-D, and one of the world's largest producers of chlorpyrifos, both of which are linked to asthma. (Both are active pesticide ingredients produced by Dow and ultimately sold by other companies.)

Seventy-six (76%) of Americans have chlorpyrifos metabolites in their bodies, according to the Centers for Disease Control.<sup>7</sup> Children ages 6-11 have exposure at four times the level EPA considers acceptable for long-term exposure. Additionally, more than 25% of Americans have 2,4-D in their bodies, with highest concentrations also found in children ages 6-11. Proponents believe that CDC's data may aid in correlation of exposures to disease, which could potentially put Dow at risk.<sup>8</sup>

- Atrazine is used on lawns, landscapes, golf courses and agriculture. Use of atrazine by a large group of pesticide applicators has been correlated with wheezing.<sup>9</sup>

## **Why Dow's current disclosure is insufficient**

In the 2006 proxy ballot, Dow's states:

- “[T]here is no scientific consensus that pesticides are a significant cause or trigger of asthma.”

As cited above, there is extensive evidence from workplace and community studies to indicate that pesticides are implicated in causing and triggering asthma.

- “The Environmental Protection Agency, the National Institute for Environmental Health Sciences, and the Centers for Disease Control and Prevention cite a variety of materials, such as dust mites, molds

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Hoppin JA, DM Umbach, SH London, et al. 2002. *Chemical predictors of wheeze among farmer pesticide applicators in the agricultural health study*. M J Respir Crit Care Med 165: 683-689.

<sup>6</sup> Salameh, PR, I Baldi, P Brochard, et al. 2003. *European Respiratory Journal* 22: 507-512.

<sup>7</sup> *National Report on Human Exposure to Environmental Chemicals*, Centers for Disease Control, 2005.

<sup>8</sup> *Ibid.*

<sup>9</sup> Hoppin, JA, DM Umbach, SJ London, et al, 2002.

and cockroaches, as potentially linked with asthma, but do not list pesticides among the common causes or triggers of asthma.”

The EPA has not investigated, nor does it even monitor, independent research into the linkage between pesticides and asthma. No EPA rules require chronic respiratory testing for pesticide products registered by Dow or other companies; the EPA monitors evidence only for *acute* respiratory effects. The EPA keeps records only on *manufacturers’* research into adverse health effects that are submitted during public comment on registrations.

- “Chlorpyrifos and 2,4-D, referenced in the proposal, have both undergone recent thorough scientific regulatory reviews by U.S. and European Union regulatory authorities.”

Neither review collected information on chronic respiratory exposure.

- “Further health and safety information on these products is available at [www.chlorpyrifos.com](http://www.chlorpyrifos.com) and [www.24d.org](http://www.24d.org). Further information on Dow product stewardship is available at [www.dowagro.com/rc/index.htm](http://www.dowagro.com/rc/index.htm) and [www.dowproductsafety.com](http://www.dowproductsafety.com). . . . Dow believes that the proposed report is unnecessary in light of our existing disclosures and public outreach on this subject.”

Dow’s disclosures do not even remotely resemble “a report analyzing the extent to which Dow products may cause or exacerbate asthma, and describing public policy initiatives, and Dow policies and activities, to phase out or restrict materials linked with such effects.”

At [www.dowagro.com](http://www.dowagro.com), a search on the word “asthma” resulted in links only to product labels – no discussion or analysis as requested by the shareholders.

The word asthma does not appear once on the site [www.dowproductsafety.com](http://www.dowproductsafety.com), [www.chlorpyrifos.com](http://www.chlorpyrifos.com), or at [www.24d.org](http://www.24d.org).

- “Dow supports these pesticides and its other products with a strong product stewardship program.”

What is relevant to shareholders is that this program has not addressed – or failed to disclose, if it has addressed – the evidence linking pesticides to asthma.

- “In the United States and many other nations, existing regulatory processes already provide opportunities for public review and comment; these venues would be a more appropriate forum for proponents of this proposal to express their concerns.”

Concerns about the role that pesticides play in causing and triggering asthma are being raised in these venues. Dow’s proxy ballot, however, is a valid and appropriate forum in which to voice concerns about risk to shareholder value.