

FISH HOEK VALLEY RATEPAYERS & RESIDENTS ASSOCIATION

(Incorporating Fish Hoek, Clovelly and Sun Valley)

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**SUBJECT: OBJECTION TO DOW AGRO SCIENCES THREE APPLICATIONS
FOR COMMERCIAL RELEASE OF THREE GM MAIZE SEED
VARIETIES GENETICALLY ENGINEERED TO WITHSTAND THE
CONTROVERSIAL WAR CHEMICAL - 2,4 D**

DUE: 17 MARCH 2019

1. DISCUSSION

We strongly object to the Dow Agro sciences' three applications for commercial release of three genetically modified (GM) maize seed varieties genetically engineered to withstand the controversial war chemical, 2,4 D involving stacked events involving glyphosate, glufosinate, 2,4 D and an insect resistant trait and the single trait event.

Due to the lack of effective labelling of GM foods in South Africa (SA) stating "this product may contain GMO", we do not want our families to be unknowingly eating maize containing residues of the toxic war chemical 2,4 D. Not only is this dangerous to our health and the health of the environment, but it will only increase the already over-taxed financial systems of our national health resources for no good reason other than international chemical companies shareholders getting richer and richer with us as the guinea pigs.¹ Let the directors of Dow Agro eat their own food.

Therefore, we urge the SA Government to use the precautionary principle when it comes to our health and well-being. By authorising the importation of this risky new GM maize variety, our government has abdicated its constitutional obligation towards its citizens to ensure that they eat safe and healthy food. The government has also set a dangerous precedent that could see our food becoming further inundated by toxic chemicals. We urge government to reverse its decision to authorise this 2,4 D GM maize and impose a ban on the grounds that it poses unacceptable risks to human health.

The World Health Organisation's International Agency for Research on Cancer (IARC) classifies the Chlorophenoxy herbicide group, of which 2,4-D is by far the most widely used member, as 'possibly carcinogenic to humans'². Also, numerous studies referred to hereunder, show conclusively an association between exposure to 2,4-D and cancer. Other studies show that 2,4-D is an endocrine disruptor of note.

We absolutely do not want to take the chance that our children are eating maize that is even remotely possibly carcinogenic.

Another factor to consider is the environment. In 2010 the province of Alberta in Canada completely banned fertiliser-herbicide combinations, due to concerns that these products result in the overuse of 2,4-D and threatens the health of waterways. Ontario's Cosmetic

¹ <https://gmoactionsite.wordpress.com/2019/03/11/objection-letter-to-dow-24-d-due-01-april-2019/>

² Centre for Food Safety (2012). Comments to EPA on notice of receipt of applications to register new uses of 2,4-D on enlist AAD-1 Corn and Soybean.

Pesticides Ban Act, which took effect in 2009, has prohibited the use of 2,4-D for 'cosmetic uses' on outdoor residential and landscape areas, vegetable and ornamental gardens, parks and school yards'.

Numerous studies in humans have reported an association between exposure to 2,4-D and non-Hodgkin's lymphoma, a cancer of the white blood cells.⁶ The first studies to link 2,4-D with non-Hodgkin's lymphoma were published in Sweden over thirty years ago.³ Other studies have found that 2,4-D formulations are cytotoxic (damages and kills cells), mutagenic, exhibit hormone disrupting activity,⁴ and affects the function of the neurotransmitters dopamine and serotonin.⁵ Experiments in which lactating rats were fed low doses of 2,4-D revealed that the chemical inhibits breast feeding from mother to pup⁶ and as a consequence, led to weight loss in the offspring.⁷ 2,4-D and its formulations have been found to cause chromosome and DNA damage in hamster ovary cells,⁸ the bone marrow and developing sperm cells of mice,⁹ and sister chromatid exchange (which has been linked to the formation of tumours) in chicken embryos.¹⁰

The use of 2,4-D is banned completely in Norway, Sweden and Denmark.¹¹ In Canada, the use of pesticides containing 2,4-D on lawns is banned in Quebec, Newfoundland and Labrador¹² and Nova Scotia. In 2010 the province of Alberta banned fertiliser-herbicide combinations in 2010, due to concerns that these products result in the overuse of 2,4-D and threatens the health of waterways. Ontario's Cosmetic Pesticides Ban Act, which took effect in 2009, has prohibited the use of 2,4-D for 'cosmetic uses' on outdoor residential and landscape areas, vegetable and ornamental gardens, parks and school yards'. Manitoba plans to introduce similar legislation in late 2012 or early 2013.¹³ In South Africa a group of fresh vegetable producers from the Tala valley in KwaZulu Natal took legal action against a manufacturer of herbicides, after their crops were damaged by herbicides, including 2,4-D in 1990.¹⁴ This ultimately led to a ban on the aerial application of 2,4-D (in its dimethylamine salt form) in KwaZulu-Natal and a total ban in the magisterial districts of Camperdown,

³ Hardell L, Eriksson M, Lenner P, et al (1981). Malignant lymphoma and exposure to chemicals especially organic solvents, chlorophenols and phenoxy acids: A case-control study. *Br J Cancer* 43:169-176

⁴ Sturtz N, Jahn GA, Deis RP, Rettori V, Duffard RO, Evangelista de Duffard AM (2010). Effect of 2,4-dichlorophenoxyacetic acid on milk transfer to the litter and prolactin release in lactating rats. *Toxicology*

⁵ Bortolozzi AA, Evangelista DeDuffard AM, Duffard RO, Antonelli MC (2004). Effects of 2,4-dichlorophenoxyacetic acid exposure on dopamine D2-like receptors in rat brain. *Neurotoxicol Teratol* 26(4):599-605

⁶ Sturtz N, Deis RP, Jahn GA, Duffard R, Evangelista de Duffard AM (2008). Effect of 2,4-dichlorophenoxyacetic acid on rat maternal behaviour. *Toxicology* 247(2-3): 73-79

⁷ Sturtz et al. (2010)

⁸ Gonzalez M, Soloneski S, Reigosa MA, Larramendy ML (2005). Genotoxicity of the herbicide 2,4-dichlorophenoxyacetic acid and a commercial formulation, 2,4-dichlorophenoxyacetic acid dimethylamine salt. I. Evaluation of DNA damage and cytogenetic endpoints in Chinese Hamster ovary (CHO) cells. *Toxicol In Vitro* 19(2):289-97

⁹ Madrigal-Budhaidar E, et al (2001). Induction of sister chromatid exchanges by 2,4-dichlorophenoxyacetic acid in somatic and germ cells of mice exposed in vivo. *Food Chem Toxicol* 39(9):941-6

¹⁰ Arias E (2003). Sister chromatid exchange induction by the herbicide 2,4-dichlorophenoxyacetic acid in chick embryos. *Ecotoxicol Environ Saf* 55(3):338-43

¹¹ Boyd, D (2006). The Food we eat: An international comparison of pesticide regulations. David Suzuki Foundation. <http://www.davidsuzuki.org/publications/downloads/2006/DSF-HEHC-Food1.pdf>

¹² Bachand, N. & Gue, L (2011). Pesticide Free? Oui! 2011 progress report: A comparison of provincial cosmetic pesticide bans. David Suzuki Foundation. http://www.davidsuzuki.org/publications/downloads/2011/Bilan_reglementations_pesticides_2011_EN_VF.pdf

¹³ Bennet, B (2012). Special committee on cosmetic pesticides. Report submitted to legislative assembly of British Columbia. 17th May, 2012. <http://www.leg.bc.ca/cmt/39thparl/session-4/cp/reports/PDF/Rpt-CP-39-4-Report-2012-MAY-17.pdf>

¹⁴ Natal Fresh Produce Grower's Association and others v. Agroserve (Pty), Ltd and others. Natal Provincial Division <http://www.unep.org/padeli/publications/Jud.Dec.Nat.pre.pdf>

Pietermaritzburg and Richmond. In its ester form, 2,4-D was completely prohibited from use in the province. In 1980 2,4-D was withdrawn from agricultural use in the Western Cape.¹⁵

Once importation of this GM maize variety begins, South Africans will be unaware that they are consuming it. Although South Africa has promulgated legislation to provide for the mandatory labelling of GM foodstuff, this legislation is currently not being complied with nor enforced and is the subject matter of an ongoing dispute between consumers and the food industry. Of further concern is that GM maize containing 2,4-D residues is highly likely to go undetected by South Africa's porous food inspection system. Imported food should be tested for pesticide residues, however, severe capacity constraints in responsible government agencies at all levels have seriously undermined the vigilance of this system.¹⁶ The stark reality is that if Dow's 2,4-D GM maize does end up at the kitchen table, South Africans will be unwitting and involuntary consumers of such harmful residues.

Currently, an applicant (Dow Chemical, for example) applying for a commodity clearance permit need only publish a public notice in three (3) national newspapers. Consequently, if members of the public do not pick up a notification on the day of its publication, they will effectively be excluded from participating in the process. Furthermore, the details of the application are not openly available to the public, for example on the internet, but must be requested and paid for through a Public Access to Information request.

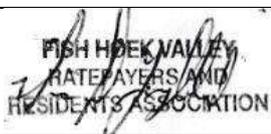
Conclusion

By authorising the importation of this risky new GM maize variety, our government has abdicated its constitutional obligation towards its citizens to ensure that they eat safe and healthy food. The government has also set a dangerous precedent that could see our food becoming further inundated by toxic chemicals. We urge government to reverse its decision to authorise this 2,4 D GM maize and impose a ban on the grounds that it poses unacceptable risks to human health.

2. RECOMMENDATIONS

It is recommended, for the reasons set out in this report, that:

- This application should be **DENIED**; and
- Applications be more widely publicised in the future, including electronically.

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¹⁵ Banned and restricted substances in the Republic of South Africa.

http://www.nda.agric.za/daDev/sideMenu/ActNo36_1947/bannedAndRestricted.htm

¹⁶ Agenbag, M. & Balfour-Kaipa (2008). Developments in Environmental Health. From the South African Health review 2008. Health Systems Trust. http://www.hst.org.za/uploads/files/chap10_08.pdf