A Guide to the Food Quality Protection Act (FQPA)

For Migrant-Serving Clinicians

In 1996, Congress unanimously passed the Food Quality Protection Act (FQPA), a comprehensive overhaul of federal pesticide and food safety policy. The FQPA transformed the basis of pesticide regulation from a risk-benefit analysis to a health-based assessment, directing the Environmental Protection Agency (EPA) to ensure a "reasonable certainty of no harm" for every pesticide used on foods registered (legally sanctioned) by the agency. Based on studies by the National Academy of Sciences, this standard directed EPA to rely on scientific data on pesticide toxicity and required that when insufficient data was available, the agency must put in place significant buffers to ensure that pesticide residue on foods would not harm the public.[1] The law also provided special protections for infants and children. At the time of its unanimous passage, the FQPA was welcomed by all stakeholders, including chemical industry, farmer groups, environmentalists, public health advocates, and consumer groups.

Major Provisions of the FQPA

The FQPA amended the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA), the laws which govern how the EPA registers pesticides and pesticide labels for use in the United States, and how the EPA establishes tolerances (acceptable levels) for pesticide residues on food. Specifically, the FQPA includes the following provisions aimed at protecting the public from pesticide exposure:

- FQPA mandates a single, health-based safety standard for pesticide residues in food. The EPA must assure "reasonable certainty of no harm," meaning that all tolerances for pesticide residues in food must be based on scientific evidence that they will not negatively impact the public's health.

- In ensuring that pesticide residues pose no harm, EPA must consider all non-occupational sources of exposure, including foods, drinking water and residential exposure.

- EPA must consider children's special sensitivity and exposure to pesticide chemicals and must make an explicit determination that pesticides are safe for children.

- In determining safe levels of pesticide residue, EPA must include an additional ten-fold safety factor (above the level considered safe for adults) to take into account the special sensitivity of pre- and post-natal exposure to toxicity, unless reliable data indicate that other levels will be safe for children and infants.

- EPA must consider together pesticides that share a common mechanism of toxicity, so that pesticides with additive effects are only approved for safe use if their cumulative risks pose no harm.

- The benefits of pesticides cannot be used to override the health-based standard for children.

- Chemical manufacturers must provide data on their products, including potential endocrine effects.

The FQPA also altered the pesticide registration process in a number of ways, including directing EPA to conduct periodic reviews of pesticide registration, and to review all existing tolerances within 10 years to ensure compliance with the health-based safety standard.

Risks from Exposure to Pesticides

Approximately one billion pounds of pesticide active ingredients are used annually in the U.S., and over 16,000 pesticide products are on the market. Exposure to pesticides can cause short- and long- term illness and sometimes fatalities.[2] Workers become exposed through spills, splashes, defective, missing or inadequate protective equipment, direct spray, drift or contact with pesticide residues on the crops or soil. Families can also be injured when farmworker children play in treated fields, when workers inadvertently take home pesticide residues on their hair, skin or clothing or when pesticides drift onto outdoor play areas and get tracked into homes.[3] Even low levels of pesticide exposure over time can lead to chronic health effects such as cancer, infertility, birth defects, endocrine disruption, neurological damage and even death.[4] Recent studies document negative health effects – including lower IQ in children – from exposure to organophosphate pesticides that are currently approved for agricultural use.[5] Although pesticide poisonings are not tracked nationally, the EPA has estimated that 10,000-20,000 physician-diagnosed pesticide poisonings occur each year among farmworkers.[6]

The FQPA and Farmworkers

The FQPA does not mandate that EPA take into account occupational exposure to pesticides in its residue tolerance determinations. The impact of pesticides on farmworkers is instead taken into account as part of the cost-benefit analysis under FIFRA, which balances the profits from using a pesticide against the dollar value of harm caused by that pesticide to human health and the environment. Under the FIFRA standard, even pesticides that pose “risks of concern” to farmworkers or the environment can continue to be registered for use if switching to alternatives would pose a burden to chemical companies or farmers.

However, the FQPA does provide workers and consumers with extra protection from the negative health effects of most toxic pesticides. The ten-fold safety factor, while aimed at reducing risk of pesticide-related illness among food consumers, also reduces the volume of pesticides that can be sprayed in the fields and therefore may reduces the risk of exposure for farmworkers. The FQPA also requires EPA to take into account non-occupational exposures to pesticide residue, including residential and drinking water exposure, which heavily impact farmworkers and

other rural residents who live in or near agricultural fields.[7]

For more information on the FQPA, see http://www.epa.gov/pesticides/regulating/laws/fqpa/index.htm.

Notes

[1] *National Academy of Sciences. 1993. Pesticides in the Diets of Infants and Children. Washington, DC: National Academy Press.*

[2] *For an example of a farmworker fatality, see Lee MH, Ransdell JF. 1984. A farmworker death due to pesticide toxicity: A case report. Journal of Toxicology and Environmental Health 14(2-3): 239-246.*

[3] *See Curl CL, Fenske RA, Kissel JC, Shirai JH, Moate TF, Griffith W, Coronado G, Thomson B. 2002. Evaluation of take-home organophosphate pesticide exposure among agricultural workers and their children. Environmental Health Perspectives 110(12): A787-A792; J Beckman, B Diebolt-Brown, GM Calvert, R Gergely, M Lackovic, SJ Lee ,L Mehler, Y Mitchell, S Moraga-McHaley, P Mulay, J Prado, A Schwartz, J Waltz. 2011. Acute Pesticide Illnesses Associated with Off-Target Pesticide Drift from Agricultural Applications – 11 States, 1998-2006. Environmental Health Perspectives 119(8): 1162-1169;*

[4] *For example, see Mills, P. 2001. Cancer Incidence in the United Farmworkers of America 1987-1997, Am J. of Ind. Med. 40:596-603; McCauley LA, Anger KW, Keifer M, Langley R, Robson MG, Rohlman D. 2006. Studying Health Outcomes in Farmworker Populations Exposed to Pesticides. Environmental Health Perspectives 114(6):953-960. Infante-Rivard, C. & S. Weichenthal. 2007. Pesticides and Childhood Cancer: An Update of Zahm and Ward's 1998 Review. Journal of Toxicology and Environmental Health, Part B 10 (81). For a comprehensive review of academic literature on health risks associated with pesticides, see Sanborn, et al, Pesticides Literature Review, Ontario College of Family Physicians (Toronto 2004), online at http://www.bvsde.paho.org/bvstox/fulltext/rpesticides.pdf*

[5] *Bouchard MF, Chevrier J, Harley KG, Kogut K, Vedar M, Calderon N, Trujillo C, Johnson C, Bradman A, Barr DB, Eskenazi B. 2011. Prenatal Exposure to Organophosphate Pesticides and IQ in 7-Year Old Children. Environmental Health Perspectives 119(8): 1189-1195.*

[6] *Centers for Disease Control and Prevention, National Institute of Occupational Safety and Health (NIOSH), "Pesticide Illness & Injury Surveillance," April 24, 2009, http://www.cdc.gov/niosh/topics/pesticides/*

[7] *Lu C, Fenske RA, Simcox NJ, and Kalman D. 2006. Pesticide Exposure of Children in an Agricultural Community: Evidence of Household Proximity to Farmland and Take Home Exposure Pathways. Environmental Research 84(3), 290-302; Bradman A, Whitaker D, Quirós L, Castorina R, Henn BC, Nishioka M, Morgan J, Barr DB, Harnly M, Brisbin JA, Sheldon LS, Mckone TE, Eskenazi B. 2007. Pesticides and their Metabolites in the Homes and Urine of Farmworker Children in the Salinas Valley, CA, Journal of Exposure Science and Environmental Epidemiology 17:331-349; Thompson B, Coronado GD, Grossman JE, Puschel K, Solomon CC, Islas I, Curl CL, Shirai JH, Kissel JC, Fenske RA: Pesticide take-home pathway among children of agricultural workers: Study design, methods, and baseline findings. Journal of Occupational and Environmental Medicine 45(1):42, 2003.*

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