

# Willamette Valley Field Burning: End the Assault on Public Health

## The Campaign to End Field Burning<sup>1</sup>

**In 2009, the Legislature can cleanse our common air shed, relieve needless suffering, and improve our quality of life -- all without spending one additional dime of public funds.**

### Competing Proposals to Protect Public Health

The Governor's bill HB 2183 would phase out burning by 2011, while SB 528 by several legislators would end the practice in 2009. Only the latter affords adequate and timely protection.

### Field Burning Smoke Injures and Kills

Inhalation of field burning smoke threatens all Oregonians and presents serious health risks to those with existing respiratory or cardiovascular disease, and to sensitive populations including elderly persons and young children.

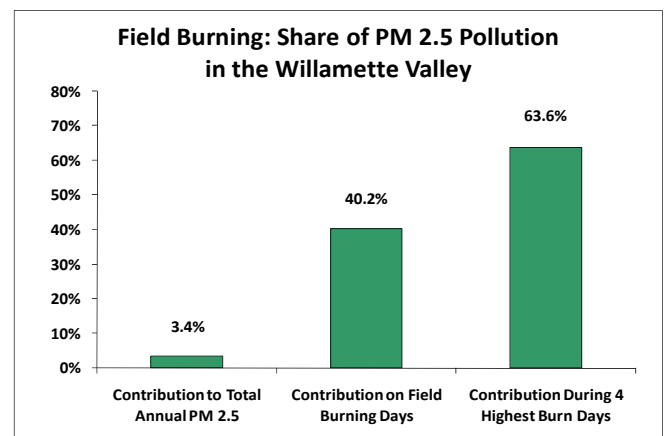
Air pollution laden with particles less than 2.5 microns in diameter (PM<sub>2.5</sub>) is especially harmful. PM<sub>2.5</sub> is not effectively filtered out by the lungs and a portion will enter the bloodstream. For that reason, fine particulate matter pollution causes or exacerbates not only respiratory disease – including asthma and chronic obstructive pulmonary disease – but also vascular disease. **Inhalation of such smoke increases the risk of hospitalization from respiratory distress, heart attack and stroke;<sup>2</sup> it is also implicated in premature death.<sup>3</sup>** These risks stem from both chronic and acute exposure to PM<sub>2.5</sub>.<sup>4</sup>

Smoke from field burning of post-harvest grass straw is more heavily laden with fine particulates than smoke from other types of agricultural burns, wildfires, and forest fires.<sup>5</sup> In addition, field burning smoke contains numerous carcinogens, including polycyclic aromatic hydrocarbons, benzene, aldehydes and metals.<sup>6</sup>

The state field burning program imposes a heavy burden on downwind communities and residents. Health care costs rise for persons who require hospitalization or pulmonary medicines. Some residents are forced to relocate out of the Willamette Valley during the burning. Workplace productivity, tourism, and Oregon's reputation as an outdoor destination all suffer as a result of this archaic practice.<sup>7</sup>

### Field Burning Generates Deadly Pollution

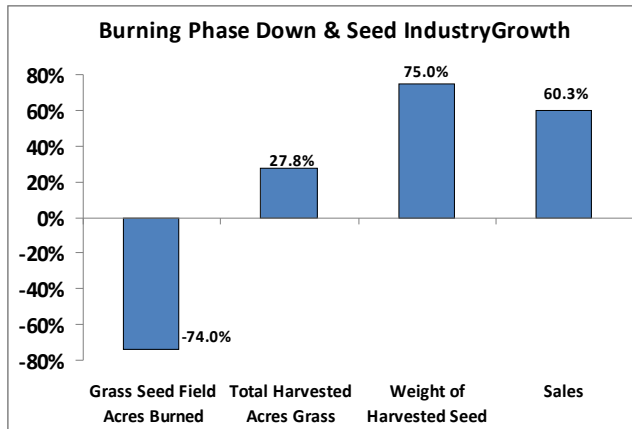
Field burning contributes more than 1,700 tons of fine particulate air pollution in the Willamette Valley.<sup>8</sup> This is more than half the total annual PM<sub>2.5</sub> coming from motor vehicles and equipment in the Willamette Valley. **The amount of PM<sub>2.5</sub> pollution generated in summer and early fall by field burning is nearly as much as that generated year-round by open burning from all other sources.** During the burn season, field burning accounts for the preponderance of fine particulate pollution in the Willamette Valley.



The statistics demonstrate that Oregon's field burning program injures quietly – by contributing to the load of pollutants that increase the risk of pulmonary and vascular disease. Yet, these numbers fail to tell the full horror that results when field-burning smoke descends without warning, choking communities and blinding motorists. Dramatic, if infrequent, tragedies inevitably result. One occurred on Aug. 15, 1996, when Sharon Buck of Sandpoint, Idaho, died after inhaling air heavily polluted with grass seed field burning smoke. Another tragedy struck on August 3, 1988, when field burning smoke engulfed I-5 near Albany, OR causing a massive pile-up that killed seven and injured 38 people.

## An Inessential Practice

In 1991, in partial response to the tragedy on I-5, Oregon enacted a multi-year phase-down of grass seed field burning. ORS 468A.610. Despite the phase-down, Oregon's grass seed industry has expanded markedly by every criterion, including pounds of seed produced, sales, and acres harvested.<sup>9</sup>



The state of Washington banned grass seed field burning in 1998. WAC 173-430-045. That ban did not lead to decreased harvests; in fact, yield per acre climbed 30 percent while sales climbed 52 percent over 1998-2007.<sup>10</sup>

Continued growth in the grass seed industry, despite restrictions on burning, illustrates that the practice is not essential to the grass seed industry's viability.

By law, Oregon permits a maximum of 65,000 acres of burning in the Willamette Valley, but less than 40,000 grass field acres have actually been burned in each of the last two years. Fewer than 150 of 1,400 growers still resort to field burning. The vast majority rely on proven alternatives, including baling and mechanical removal, on-farm composting, crop rotation and similar techniques. No doubt some growers benefit from burning, as it remains a relatively inexpensive method of removing residue and gaining competitive advantage over growers employing more sustainable methods. That is no reason to continue the state's burning program, particularly in light of its imposition of costs to communities downwind of the burns.

Although the scope of Oregon's field burning program is greatly reduced from the 1970s and 1980s, the smoke plumes regularly inundate small communities up and down the Willamette Valley, and at times still strike the Eugene/Springfield metropolitan area.

There is no reason for Oregon to continue to permit this outdated, unnecessary and harmful practice that only a minority of grass seed growers employ.

**Public patience is exhausted. It is well past time to end field burning. The Legislature should do it in 2009.**

<sup>1</sup> A project of the Western Environmental Law Center (WELC). The Campaign is endorsed by the Lane, Marion and Polk County Medical Societies, the Amer. Lung Association, the Oregon Toxics Alliance, physicians, business owners, and others.

<sup>2</sup> The ID Dept Health & Welfare found increases of 10  $\mu\text{g}/\text{m}^3$  in  $\text{PM}_{2.5}$  associated with 11% increases in acute stroke risk. Particulate Matter and Health Effects in North Idaho: An Evaluation of Air Monitoring and Health Insurance Data. 2007.

<sup>3</sup> Pope CA III, Ezzati M, Dockery DW. Fine-particulate air pollution and life expectancy in the United States. *N Engl J Med* 2009;360:376-386 (confirming that chronic exposure to fine particulate air pollution shortens human life and that air quality improvement through reduced  $\text{PM}_{2.5}$  prolongs life); Krewski, D. (2009). Evaluating the Effects of Ambient Air Pollution on Life Expectancy. *NEJM* 360: 413-415.

<sup>4</sup> See Dominici, et. al., 2006. Fine Particulate Air Pollution and Hospital Admission for Cardiovascular and Respiratory Diseases. *JAMA* 295:1127-1134 (Short-term exposure to  $\text{PM}_{2.5}$  increases risk for hospital admissions). See also, Maya Leonard-Cahn, 2008, Ambient  $\text{PM}_{2.5}$  Exposure and Associated Health Effects: A Synthesis of Recent Scientific Literature. Both available at [www.endfieldburning.org](http://www.endfieldburning.org).

<sup>5</sup> WA State, Quantifying Post-Harvest Emissions from Bluegrass Seed Production (March 2004), 26.

<sup>6</sup> Oregon Department of Agriculture, et. al., Open Field Burning in the Willamette Valley, April 2007.

<sup>7</sup> See endorsers' statements at [www.EndFieldBurning.org](http://www.EndFieldBurning.org). See also: WA Dept. Ecology, Estimates of the Costs and Benefits of the Rule to Certify Alternatives to Grass Field Burning (1998) (benefits of banning field burning outweigh costs).

<sup>8</sup> Statistics in this paragraph are based on data from the Dept. of Env'tl. Quality (April 2007), in WELC files.

<sup>9</sup> Chart and analysis by WELC of data from Oregon State University, Extension Economic Information Office.

<sup>10</sup> WELC analysis of data [www.nass.usda.gov/Statistics\\_by\\_State/Washington/Historic\\_Data/specialty/kybluesd.pdf](http://www.nass.usda.gov/Statistics_by_State/Washington/Historic_Data/specialty/kybluesd.pdf).