Kitchens may be a pollution hazard

By Peter Andrey Smith, New York Times

By midmorning, the smell of hot peanut oil dissipated and inside the tightly sealed laboratory known as Building 51F, a pink hamburger sizzled in a pan over a raging gas flame. Overhead, fans whirred, whisking caustic smoke up through a metallic esophagus of ductwork.

Woody Delp, 49, a longhaired engineer in glasses – the Willie Nelson of HVAC – supervised the green bean and hamburger experiments. He sat at a computer inside a kitchen simulator, rows upon rows of numeric data appearing on his screen, ticking off the constituents of the plume sucked up the flue. A seared hamburger patty, as he sees it, is just a reliable source for indoor pollution.

Veronica, Pam and Cleo cook several dishes. Photo/LTN file

“I can claim Alice Waters’ influenced the recipe,” he said. “It’s all fresh and local.”

But Delp and his colleagues aren’t really interested in testing recipes. They are scientists at the Energy

Department’s Lawrence Berkeley National Laboratory, and the morning’s experiment concerned another kitchen conundrum, a fight against physics: how to remove harmful contaminants caused by cooking.

Simply put, cooking is an act of controlled combustion – you set oil, fat, and carbohydrates on fire. As a health hazard, incinerating hamburgers and green beans may pale in comparison with lighting wood or coal fires indoors, the leading environmental cause of death and disability around the world. Yet frying, grilling or toasting foods with gas and electric appliances creates particulate matter, nitrogen dioxide, carbon monoxide and carbon dioxide, and volatile organic compounds. (Acrolein, which most cooks recognize as the smell of burnt fats or oils, was used in grenades in World War I because it causes irritation to the lungs and eyes.)

Read the whole story