

# KID'S KORN ER

## Cozy Wood Fires Create Health-Threatening Pollution

DENVER — On a clear winter day in this mile-high city, you can see beyond the downtown skyscrapers to the low mountains of the Front Range, beyond them to the white caps of the 14,000-foot peaks of the Rocky Mountains, etched against the infinite azure of the western sky.

But chances are good that you won't even be able to see the foothills. They'll be lost behind the capital city's infamous "brown cloud," the smog layer that hovers 200 to 300 feet off the ground when weather conditions are right.

### Causes Lung Diseases

It isn't just ugly, it's dangerous. Colorado is the nation's fourth-ranked state in deaths associated with chronic obstructive pulmonary diseases, according to figures compiled by the federal government. Such diseases include emphysema, chronic asthma, and chronic bronchitis.

Enter a new villain, unrecognized until the past few years: wood-burning stoves and fireplaces.

Cars remain the chief contributor to polluted air in Denver and most other cities. But it has been determined that as much as 18 percent of the brown cloud over the six-county Denver metropolitan area of 1.5 million people is caused by the residue from fires in an estimated 72,000 stoves and fireplace inserts and in 265,000 fireplaces.

The percentage of pollution from wood smoke is far greater in the narrow valleys of ski-resort towns in Colorado's high Rockies — towns such as Aspen, Telluride, Crested Butte, and Vail — and in New England winter resorts.

In Aspen, a town of 3,800 in a ski area that may grow to 30,000 at the height of the season, the 600-foot-thick cloud that engulfs the valley is blue, not brown, because it is 45

percent wood smoke, says Lee Cassin, environmental health officer for both Aspen and Pitkin County.

Missoula, Mont., with a population of 65,000, is another city with a problem. When warm air traps pollution-filled cold air in the 3,100-foot-high valley where Missoula is located, "it's a box with a lid on it," says Jim Carlson, senior scientist with the city-county health department.

"It's against human nature for people to think they contribute individually to a problem," says Steve Walker of the Albuquerque, N.M., Environmental Health Department's Air Pollution Control Division. A laboratory study has found that the sources of that state capital's brown cloud are divided equally between motor vehicles and wood smoke.

### Fumigating Fog

"The thing I really worry about," Walker says, "is that when you go through neighborhoods at night, they're being fumigated with wood smoke. It reminds you of the fog in 'The 10 Commandments.'"

The health dangers from that smoke are now well-known. Not only does it contain carbon monoxide and other noxious gases, it also contains minuscule particles, some of them as carcinogenic as cigarette smoke, that find their way into lungs. The problem is felt most acutely in population centers where altitude is high and temperatures are low.

Ironically, use of wood stoves took off during the oil crisis of the 1970s, when wood was touted as an environmentally sound, economical, renewable source of heat.

Although some authorities say the craze probably crested in the late '70s, there are still an estimated 12 million wood stoves in



Looking forward to a rigorous winter, Vermont store owner Dan Fraser stockpiles more than a hundred cords of firewood. In New England, as in the Rockies, Ozarks and other heavily wooded regions, wood is a renewable and plentiful heat source. But it comes with a price that goes beyond the per-cord cost. Wood smoke contains carbon monoxide, other noxious gases, and minuscule particles that rival cigarette smoke for virulence.

the United States, and 800,000 new ones are sold every year.

Health dangers and soaring wood costs notwithstanding, people continue to enjoy their wood fires. Robert Aukerman, a professor at Colorado State University, has conducted many studies on wood uses. Sixty percent of Coloradans burn wood for recreation, not heat alone, he says.

Moreover, he calculates that wood-burners are, in the long run, stripping the state of fuel faster than it can be replenished. "With the amount of wood removed each year in Colorado alone," he says, "we could build a wall two feet wide and four feet tall from San

Francisco to New York — and back again."

Governments at all levels are taking action against the recently recognized dangers of wood-caused pollution.

### Resorts Adopt Restrictions

Aspen, Telluride, and other resort communities have adopted tough restrictions on the number of stoves and fireplaces. Missoula has mandatory no-burn days. Denver followed suit this fall, becoming the country's largest city to adopt a mandatory no-burn policy.

Only two states, Oregon and Colorado, have passed laws requiring strict pollution-control

standards for new wood stoves. Oregon's law took effect July 1; Colorado's will become effective next Jan. 1.

After six months of negotiations by representatives of government, industry, and environmental groups, on Jan. 1 the U.S. Environmental Protection Agency will announce nationwide certification regulations for wood stoves and fireplace inserts.

The new two-phase rules, to begin on July 1, 1988, will reduce wood-fire particulate emissions more than 70 percent in the fifth year and result in net savings to the wood-burning public of \$29 million a year, EPA officials predict.

## COLOR THIS!

- |           |               |
|-----------|---------------|
| 1. BLACK  | 6. LT. GREY   |
| 2. RED    | 7. GREEN      |
| 3. YELLOW | 8. LT. BROWN  |
| 4. BLUE   | 9. LT. BLUE   |
| 5. BROWN  | 10. LT. GREEN |

THE ARCHERFISH HAS A MOUTH LIKE A SMALL GUN BARREL, AND CAN SHOOT A DROP OF WATER FROM IT WITH DEADLY ACCURACY AND ENOUGH FORCE TO KNOCK A BUG FROM A TREE TRUNK OR LEAF. ITS AIM IS GOOD FOR UP TO TWELVE FEET. THIS FISH IS FOUND IN THE WATERS OF SOUTH-EAST ASIA.

