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Fire problem studied by University of Montana professor

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MISSOULA--.

Fire, long man's ally in his struggle for survival, has, nevertheless, become a major source of destruction in man's world.

This year fire, which ranks second only to vehicular mishaps as a cause of accidental death and injury in the U.S., is expected to cost Americans more than $5 billion dollars.

Until recently man's efforts to prevent and combat fire have consisted largely of the trial and error development and application of flameproofers or fire retardants without an understanding of the chemical changes which take place during combustion.

A University of Montana professor feels that, in this age of great technological achievement, there must be a better way to control fire.

Dr. Fred Shafizadeh, professor of chemistry and forestry and director of the U.M. Wood Chemistry Laboratory, has for the past 15 years studied the chemical nature of wood and other cellulosic material and, particularly, the chemical changes that take place when this material burns.

The key to chemically controlling and preventing fire, says Dr. Shafizadeh, may lie in the process of thermal degradation, through which nonvolatile cellulosic substances, when heated, form combustible gases and tars.

In addition to combating fire, however, Dr. Shafizadeh is trying to discover ways in which thermal degradation can be employed to more fully utilize our forest resources.

According to Dr. Shafizadeh, although it may take 120 years to produce wood in its final, Usable form, man uses only 50 per cent of the timber harvested. The other half is wasted.
Dr. Shafizadeh said he believes that, by the proper application of heat and catalyst, wood waste such as slash and sawdust, wood may be reduced to basic, and usable, chemical components, in the same way that petroleum residues are catalytically converted to useful products.

Because of the potential value of Dr. Shafizadeh's work to product safety, consumer protection and environmental health, the Food and Drug Administration has recently awarded the scientist a $39,500 grant to continue his study.

This is the first installment in a three-year series of F.D.A. grants which will total about $82,000.

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