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University of Montana scientist, Fred Shafizadeh, patents two wood discoveries

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NEWS

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UM SCIENTIST PATENTS
TWO WOOD DISCOVERIES

sorensen
12-27-66
(State)

by R. Scott Sorensen,
UM Information Services

Two probable major contributions in commercial wood processing have been made by a University of Montana professor of chemistry and forestry.

Dr. Fred Shafizadeh, director of the new UM Wood Chemistry Research Laboratory and professor of chemistry and forestry received notification recently that two of his inventions have been fully patented.

The hiring of the chemical scientist by UM this fall and the installation of the laboratory were heavily financed by grants from the Hoerner Waldorf Corporation to the UM Foundation.

One invention, according to the patent resume would improve the dimensional stability of wood by greatly reducing shrinkage and expansion caused by moisture.

Chemicals with molecular structures so small they can easily penetrate the structure of the wood and enter the cell walls are used. The chemicals can solidify and increase the wood stability in the individual cells without leaching from the wood, Shafizadeh emphasized.

Other methods are used for stabilizing wood, said the UM professor, but this process would provide "a means and method for economically improving the dimensional stability of wood."

The other invention, said the scientist, can utilize most of the vast amount of waste materials resulting from normal wood processing.

From this waste material, particularly sawdust, small chips, flakes and shavings, levulinic acid may be commercially made, the patent states, at a markedly reduced cost to the producer.

(MORE)

Plastics, polymers, solvents, flavoring agents and pharmaceuticals all could make use of the acid drawn from hex^oose-yielding materials in wood.

The patent, said the inventor, would "gainfully utilize the large amounts of waste materials."

The patents are owned by Weyerhaeuser Company, for whom Shafizadeh worked as senior scientist and manager of the company's Pioneering Research Department from its creation in 1960 until coming to UM. All patents are exclusively controlled for a 17-year period.

Recognized as a leading carbohydrate chemist on a national and international basis, Shafizadeh has co-authored chapters on carbohydrates in the Encyclopedia Britannica and the Encyclopedia of Plant Physiology in addition to authoring numerous research papers in scientific journals.

The Iran-born scientist has a normal teaching load in addition to his research assignments. He will instruct three classes winter quarter--chemistry of plant constituents, chemistry of wood products and the chemistry of carbohydrates.