



### Gifts of Vulcan

► VOLCANOES have long been regarded with such dread, as monsters of immeasurably violent destruction, that it comes as a surprise to many persons when they learn of their highly beneficial activities. It has become pretty well known that the richest lands in the temperate zones are found where a million years of glaciers plowed and pulverized and mixed the soil. We are used to fertility as a gift of ice; to find it also as a gift of fire catches us unprepared.

Those who know soil science are unanimous in agreeing that volcanic soils are among the richest in the world. They are so because volcanoes, like major ice sheets, act as tremendous subsoil plows, bringing up buried treasures of mineral elements needed by plants from deeper levels and putting them where roots can get at them.

Of course, where an eruption takes the form of a lava flow that cools into a sheet of solid rock, this fertility does not become available until weathering has crumbled its surface into soil, and that may take tens of thousands of years. However, a lava flow is usually quite limited in extent, as compared with the area over which a layer of volcanic ash falls, from the noisier, more explosive type of eruption.

And it is in this gray ash that the great gifts of Vulcan are delivered. The ash is usually small-grained and porous, from the explosive action of steam and other gases, so that it forms a light, easily worked soil, with large internal surfaces making the nutrient minerals readily available through the solvent action of seeping water and searching roots.

Travelers have often exclaimed at the hardiness, even the foolhardiness, of Italian peasants in moving right back onto the slopes of Vesuvius and setting out new vineyards right after an eruption had smothered their old ones. But these small farmers know what they are about. Vesuv' may have ruined their old farms, but he has given them better new ones in exchange.

The same is true elsewhere in the world. Some of the finest of Europe's western grapelands, in France and the Rhine-Moselle valleys, are on soils supplied by prehistoric volcanoes. Our enemies the Japanese would not be able to get even the kind of living they do off their mountain-slope farms if those mountains were not volcanoes. The same is true in the rich islands of Java and Sumatra, on the fertile uplands of Central America where premium coffee is raised, and in a dozen other regions famed for their fertility. The gifts of Vulcan are strange, but not niggardly.

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### CHEMISTRY

## Nylon to Be Used on Undergear of Warplanes

► NYLON for undergear of warplanes, 750,000 pounds of it that might have adorned feminine legs, is scheduled to reach tire makers by year's end. In announcing the first quantity shipment of nylon yarn, du Pont officials revealed that increasing quantities will be tagged for strengthening airplane tires.

After testing at Wright field, the Army Air Forces' research base in Ohio, some planes equipped with nylons went on combat duty in the Pacific war zone.

Meanwhile, small amounts of yarn have been going to five rubber companies so they could set up manufacturing methods.

Nylon cord tires apparently banished the idea that bigger tires and the resulting redesign of landing gear would be necessary to lug the bigger cargoes and bomb loads demanded by the increased tempo of the aerial offensive.

*Science News Letter, July 31, 1943*

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**THE PRESIDENT OF THE CORPORATION**  
G.P.O. Box 341  
New York 1, N. Y.