Do You Know?

The United States produces about 97% of the world's supply of *grapefruit.*

Vanillin, an essential flavor and perfume substance, occurs in vanilla beans to the extent of two or three per cent.

On the flanks of the *shrew* is a gland that secretes a substance with a pungent odor that may save it from some of its enemies.

Chinese doctors have prescribed *seaweed* for centuries in treating goiter though knowing nothing whatever about its iodine content.

The absence of the pink *bollworm* from the United States has enabled this country to compete with the other cotton producing countries in spite of our higher labor costs.

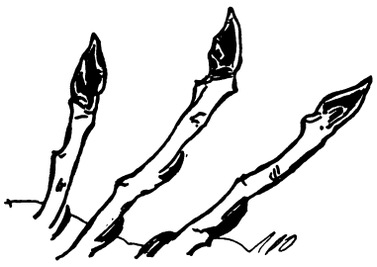
The science of *metallography,* which deals with the internal structure of physical constitution of metals, began to develop a half-century ago; now it is an indispensable standby of the steel technologist.

"Super fuels," added to low-octane gasoline to raise the octane rating, are produced mainly by compressing certain abundant petroleum refinery gases to liquids and combining the liquids in the presence of hydrogen fluoride.

Products of red and brown *seaweeds,* such as agar, algin, and carrageenin, should have "phycocolloid" as a group name, the Scripps Institution of Oceanography suggests; seaweed gums and mucilages are unsatisfactory names, it says.

ECOLOGY

NATURE RAMBLINGS by Frank Thone



Winter Drought

➤ DROUGHT is something we usually think of in connection with late summer's burning sun, hot winds and baked soil. In winter, when annual plants are all dead and most of the woody perennials leafless, there doesn't seem to be much chance for vegetation to droop and wither for lack of moisture. Besides, it isn't hot enough to evaporate water rapidly.

Nevertheless plants, even in winter condition, can suffer from loss of water. Winter often brings really severe drought, despite low temperatures. Temperature is only one of the factors that produces evaporation. Another rather important factor is air movement that blows water vapor away as it comes off the evaporating surface; and no one can deny that there are winds in winter. Moreover, they are often very drying winds. Even during a blizzard, when the air is filled with snow, the relative humidity may be away down. These conditions are especially liable to obtain in the West, where people talk of the "dry" cold.

Still, supposing midwinter atmospheric conditions do favor evaporation, how should that affect plants? They are close-reefed, and frozen solid besides. A lump of ice can't evaporate!

But right there's the rub: it can. Water vapor can come out of ice just as it can out of liquid water, even if not so rapidly. In the strictly technical sense of the term it is not evaporation. Physicists have a special name for this change from the solid to the vapor state without the intervention of a liquid phase: they call it sublimation. But no matter what the process is called, the stock of water in a winter-bound plant can be depleted by loss as vapor. And since roots can't suck any water out of the ice in the soil, replenishments are impossible.

Of course, the water in the woody stems of a tree or shrub in winter isn't really ice. It has sugars dissolved in it, and other things that make it more or less like mucilage; and everybody knows that sugar syrup or mucilage do not freeze as readily as pure water. (Indeed, if ice crystals form in the tissues of a plant it is a very bad thing for the plant). But to return to our story of evaporation: water can disappear as vapor from even the carbohydrate-thickened sap, and the plant will feel the effects of drought, no less than if it were losing water to a hot summer sun.

Science News Letter, January 5, 1946

PSYCHOLOGY

Expensive Perfume Is Not Preferred to Cheap Kind

➤ IF YOU gave your girl friend perfume for Christmas and couldn't afford the most expensive brand, she may be just as well satisfied with a cheaper kind.

Sixty-nine students at the University of California sniffed six different perfumes in a test to see whether the kind costing $16 an ounce was any better liked than another costing only 50 cents.

Results of the test are reported by Dr. Gladys M. Jewett, in the *Journal of General Psychology.* In the case of lilac perfume, only slightly more than half preferred the $16 brand (56%). With the gardenia, 55% preferred the fifty-cent kind to an $8 variety. With apple blossom, there were a few more votes for the expensive kind—69%.

There is no consistent relation, Dr. Jewett decided, between the price of the perfume and the preference of the lady. The lady, however, did not know the prices of the perfumes she tested. There was no difference in lasting quality within an eight-hour period.

Unfortunately, it was not possible to compare the judgments of the girl students with those of men, due to the exodus of men from the University for service.

Science News Letter, January 5, 1946

Fiberglas bandages are used for fractures and similar injuries to the human body; fiberglas-plastic cast weighs about one-fifth as much as a plaster cast and does not block X-ray penetration.