

PSYCHOLOGY-FORESTRY

Spotting Forest Fires

Men with exceptional eyesight can see the thin wisp of smoke that signals a starting fire at a distance of nearly 16 miles. Four miles gained by haze cutter.

► HOW far away would you be able to see the tell-tale wisp of smoke that means the start of a forest fire?

Some of Uncle Sam's forest fire fighters with exceptional eyesight could spot it at a distance of nearly 16 miles. This is revealed in a report by George M. Byram and George M. Jemison of the Southeastern Forest Experiment Station.

Keen eyesight is very important in spotting fires. The man with keen vision can see about 10% farther than the man with only average eyesight. This 10% reduction in distance might mean a 35% increase in the size of a fire before it would be spotted by the just average man.

A special eyesight test has been developed for picking fire spotters. It does not have the familiar "E's" and other letters on it but measures your ability to see a single black spot 1/16 inch in diameter on a sheet of white paper seven inches square. If you could see a dot the size of one of the letters in this type at a distance of 72 feet, you, too, could spot a beginning forest fire more than 15 miles away.

That is, you could if there was not too much haze and if the smoke were the right color. Haze cuts down greatly on the distance at which you can spot smoke. But the color of the smoke is important, too. Dry fuels give off darker or less smoke than do wet fuels.

The blue, thin smoke from a dry grassy hillside has less contrast with its background and so is much harder to see than the white smoke from a moist area.

About four miles can be gained in visibility range for white smoke on a day when haze would normally limit vision to about 10 miles. This is accomplished by use of a "haze-cutter." Ordinary colored filters do little or no good except to cut down the glare in the observer's eyes, the investigators found. But the haze-cutter takes advantage of the fact that the light from haze is polarized while white smokes give off unpolarized light. The haze-cutter is a polarizing screen turned so as to cut off polarized light, thus making the white smoke show up in contrast to the background. To use it on thin blue smoke, which is almost completely plane-polarized, you just use the haze cutter in reverse, letting it transmit the polarized light.

Other ways in which things can be made easier on the eyes of Uncle Sam's fire spotters, include providing them with goggles that cut down the bright light that tires the eyes, painting the inside of lookout houses white with lower walls and floors a dark color to cut down contrast with the outdoors, and using plate glass at eye level slightly tilted to improve visibility and eliminate glare.

Science News Letter, May 22, 1948

reducing the recommended caloric allowance was that the original figure has been shown by studies since 1941 to be higher than people actually need. Eating up to the allowance might cause too much weight increase for good health.

Recommended allowances for protein (from meat, fish, eggs, cheese and the like), and for vitamin A and iron were not changed from those originally recommended by this group shortly before the start of the war.

A reduction in thiamin, or vitamin B₁, allowance, recommended by the board's committee on dietary allowances, was referred back to the committee for further study.

Science News Letter, May 22, 1948

TECHNOLOGY

Nylon Carpet Is Durable And Easily Cleaned

► CARPETS of nylon are now available for home use. They offer a luxurious floor covering that should endure for many years.

Because du Pont nylon is easily cleaned with soap and water, the carpet responds readily to shampoo treatment. Spots can be cleaned at home.

When cleaned and stored, the new carpet will need no special protection from moths. Nylon does not attract these destructive pests. Pre-shrunk, these carpets are manufactured by the Nye-Wait Company of Auburn, N. Y.

Science News Letter, May 22, 1948



NYLON RUG FOR THE HOME—
It promises to be long-lasting, abrasion-resistant and easy to clean.

NUTRITION

Revise Nutrition Yardstick

Daily allowances lower for sedentary workers, but protein recommendations remain unchanged. To study further the amount of thiamin needed.

► THE nation's nutrition yardstick got revised downward somewhat by the Food and Nutrition Board of the National Research Council meeting in Washington.

Daily calorie allowances for sedentary men and women, for example, are now 100 calories lower than the previous recommendations of this group. For the

individual man or woman this change seems small. It amounts to about one ounce less of sugar per day or about two less slices of bread. But when multiplied by the number of sedentary men and women in the population, the figure would amount to quite a contribution toward feeding the hungry world.

The point stressed by the board in