BOTANY

NATURE RAMBLINGS

Pokeberry

➤ ALMOST ALL of our commonest weeds are foreigners; for it seems axiomatic that an ill weed thrives best away from its own home. But one American plant can claim the somewhat doubtful distinction of sometimes amounting to a troublesome weed on its native heath.

This is the pokeberry, or pokeweed, also know simply as poke, and as scoke and garget. It is a tall, thick-stemmed, abundant-leaved plant, liking moist, rich land, especially newly-broken plowland and clearings.

Weed though it is, it is not without redeeming qualities. Prof. Liberty Hyde Bailey, who always has the right word when it comes to botanical description, calls it "a robust plant of heavy odor, but of good habit and clean." The pokeweed adds color to the corners with stiff bunches of berries that are so purple they are almost black.

These same berries yield quantities of most amazingly purple juice, which children often make into ink for their own amusement and their mother's despair. They might do for a dye, but the color has never yet been fixed. It is another case of a possible occupation for a vegetable gone because of competition from aniline and other dyes.

In earlier days, and to a certain extent still, the thick, asparagus-like shoots of the pokeweed furnished pot herbs. They were a trifle rank in taste unless taken in the very flush of their crisp infancy, but in the lack of asparagus would do all right. They were even cultivated once, but that has passed, too.

The roots of the plant are yellow and intensely bitter, yielding a violent purgative drug. Eaten by accident for horseradish, they have cause serious illness and even death.

Robbed of all its possible occupations, is it any wonder that the pokeberry has become a vagabond and a weed?

Science News Letter, August 25, 1951

ENGINEERING

Engine Knock Studied

➤ THE KNOCK in the automobile engine that causes loss of power and sometimes damage to the engine itself is under scientific investigation at the National Bureau of Standards. New knowledge relative to the mechanism by which it is produced has been obtained.

The final objective of the investigation is fuel conservation. With the great increase in the number of motor vehicles now in use, and warnings of possible petroleum shortages in the future, it is essential that methods be found for getting more useful work out of the liquid fuels employed. The investigation of knock is a part of a study in compression-ignition being made by W. J. Levedahl and F. L. Howard of the Bureau staff.

Probably the best single way to reduce fuel consumption in the automotive engine is to increase its compression ratio, the scientists state. This means in effect increasing the pressure at which the fuel is burned in the combustion chamber. This raises the temperature of combustion and hence raises the amount of heat energy per unit of fuel that is made available to do work.

However, if the compression ratio is increased beyond the limit allowed by the fuel, detonation, or knock, occurs. This means loss of power and possible damage to the engine. Although the problem has been recognized for many years, it is still only partially understood.

The investigators have found that in normal, non-knocking combustion the flame initiated at the spark plug travels evenly across the combustion chamber, generating pressure on the piston. In knocking combustion the flame progresses for a time in the same way. Ultimately, however, some of the unburned charge, known as the "end gas," is compressed to a high pressure which causes it to ignite spontaneously and burn with explosive violence.

In the studies, it is expected to find a way of correlating knocking characteristics of fuels with their chemical structure. Experiments have been carried out on several fuels of various chemical structures. Work on the burning mechanism of fuels is continuing. While the first objective is to gain more knowledge of knock and how it is produced, the second is more efficient utilization of fuels.

Science News Letter, August 25, 1951

PSYCHOLOGY

Tell Child He Is Loved

➤ PARENTS HAVE been getting much advice in recent years about the importance of making a child feel secure so that he will grow up without neurotic, personality-warping fears. The way to make him feel secure, they are told, is to make him feel loved and wanted.

But many a father and mother has undoubtedly felt like answering this advice with: Of course I love my child. Don't I slave all day cooking and cleaning, or working at the office, to give him a good home and food, clothes and toys and things other children have? What more does it take to make him know I love him?

Tell him you love him, is the way Dr. Virginia Edgar of New York City would answer this. Tell him in words and other ways many times and day after day, she advises in a report from the National Hospital for Speech Disorders. Tell him also with a warm hug as he passes by or when he comes in from play, or by a quick kiss on the cheek "for no reason at all" or by a special smile when he comes into the room.

To parents who protest that they are by nature undemonstrative and cannot easily show their feelings, Dr. Edgar says it will come easier with practice. And if the child seems stand-offish, self-sufficient and independent, he nevertheless needs to be told that his parents love him and are happy he is part of their lives.

Another way a parent can show love for a child is to devote a portion of each day to the child alone. At this time, give the child undivided attention. Don't try to teach him anything. Just sit with him and accept him and enjoy him. Play with him or read to him or sing with him if he asks you to. Tell him you came to sit with him because you like to be with him. You will learn to understand him better and be less annoyed by some things he does and he will do fewer things to annoy you simply to get your attention.

Science News Letter, August 25, 1951

MEDICINE

Radioiodine Combats Thyroid Diseases

➤ SOME 225 hospitals and clinics throughout the United States are now using radioactive iodine for treatment of thyroid gland diseases including cancer, Atomic Energy Commission figures on shipments of reactor-produced radioisotopes show.

More than 1,000 cases of hyperthyroidism have been treated with radioactive iodine and in 95% the disease was brought under satisfactory control.

Science News Letter, August 25, 1951