AGRONOMY

# NATURE RAMBLINGS

*by Frank Thone*

## Hybrid Vigor Helps

➤ CORN has been taking a terrible beating this summer. First, a late, chilly, wet spring delayed planting, in places two or three weeks past normal time. Then more rain produced disastrous floods that drowned out millions of acres of rich bottom-land fields and slowed down growth on the uplands. Finally, after the surviving crop had used up the water left in the soil by the early-summer deluges, a month or more of pitiless drought and heat took further toll. Possibility of early frosts, to add to this Job's calendar of woes, remains for us to worry about.

Nevertheless, it could have been worse. If Midwestern farmers had not been converted to the gospel of hybrid corn two decades and more ago, corn would not be standing up against its multiplied woes nearly as well as it is, and the yield from existing acreage would probably be from a fourth to a third less than can now be expected.

When Henry Wallace founded the first commercial hybrid seed-corn company, back in the early 1920's, he estimated that the then novel type of corn would produce a 10% higher yield per acre than the best open-pollinated corn then under cultivation. It appears that he was much too conservative; present-day agriculturists estimate the increase at 20% or better. This is based on growth under equivalent conditions in good seasons.

Furthermore, hybrid corn is commonly credited with being better able to withstand adverse growing conditions than the older type. It has greater over-all vigor, with stouter stalks and more prop-roots, enabling it to stay right side up under winds and rains that would cause weaker stalks to lean over and "lodge." Also, many strains of hybrid corn are claimed to have superior drought resistance. Both these abilities to withstand unfavorable weather have been needed this year by all corn that survived early rains only to encounter drought.

Finally, if early frosts do catch much of the crop with its kernels still too moist, or "soft," for cribbing, at least some farmers may resort to the old practice of letting their fields stand unharvested until after the soil freezes, to give the ears more time to dry out, and then go in and pick the crop by hand. Here again the sheer mechanical ability of the stout, well-propped hybrid stalks to stand up against autumn winds will stand the corn in good stead.

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AERONAUTICS

# Jet Propulsion Progress

➤ PROGRESS in jet propulsion of aircraft is marked by three new planes which have now passed successful flight tests and are ready for large-scale production if needed. They are the six-jet Martin Army XB-48 high-speed bomber, the jet-plus-propeller Ryan Navy XFR-4 experimental interceptor fighter, and the Douglas Navy Skystreak, which is a research plane to explore speed-of-sound traveling.

The Martin XB-48 is the largest multi-jet bomber of conventional design ever built for the Army Air Forces and is the first six-jet plane ever completed. It has a speed of over 480 miles an hour and can carry a bomb load of more than ten tons. Its six General Electric jet engines produce 24,000 pounds of thrust.

The dimensions of this new plane are approximately 108 feet in wingspan, 86 feet in length and 27 feet in height. The wings are very thin to meet requirements for flying at high speeds. There are three engines in the under surfaces of each wing, placed a short distance away from the fuselage. Landing wheels are in tandem under the fuselage itself, because the thin wings would not provide housing for them.

The new Ryan plane is much like the company's production model FR-1 Fireball in general appearances but has vastly improved performance, particularly in climbing ability. In speed, it is in the 500-mile-per-hour class. Increased speed and climbing ability are obtained by the installation of the Westinghouse 24-C axial flow jet engine in the aft section. This is more powerful than the jet engine in the earlier versions. The front engine, that drives the conventional propellers, is the same, a Wright Cyclone.

The Douglas Skystreak was designed to surpass the speed of any existing plane, and perhaps to beat the speed of sound, 761 miles an hour at sea level. It is powered with the General Electric TG-180 turbo-jet engine, similar to the powerplant in the Army Republic XP-84 which made an unofficial record of 619 miles an hour. In flight tests already made, the Skystreak showed itself to be maneuverable, stable and capable of great speed. Tests to approach the speed of sound have not yet been made. The plane, with wings of aluminum alloy and body of magnesium alloy, is claimed to be 60% stronger than any existing production aircraft.

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CHEMISTRY

## International Chemistry Congress to Meet in U. S.

➤ THE TWELFTH International Congress of Pure and Applied Chemistry will be held in the United States in 1951, it was announced at the close of the eleventh Congress in London, first to be held since the war.

Dr. W. Albert Noyes, Jr., president of the American Chemical Society, said the 1951 meeting would probably be held in New York City.

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The *Great Lakes* have a total shore line of over 8,000 miles.