## Do You Know?

*Foxes* sometimes play dead in an attempt to escape enemies.

*Strawberries* keep better if picked in the morning while still wet.

*Cellulose* exists in almost pure form in cotton.

*Egg albumen* substitutes were produced in Germany during the war from waste fish and from poor-quality milk and whey.

About one-third of the *lambs* born never reach market; better care at birth, proper feeding and control of parasites could reduce this loss.

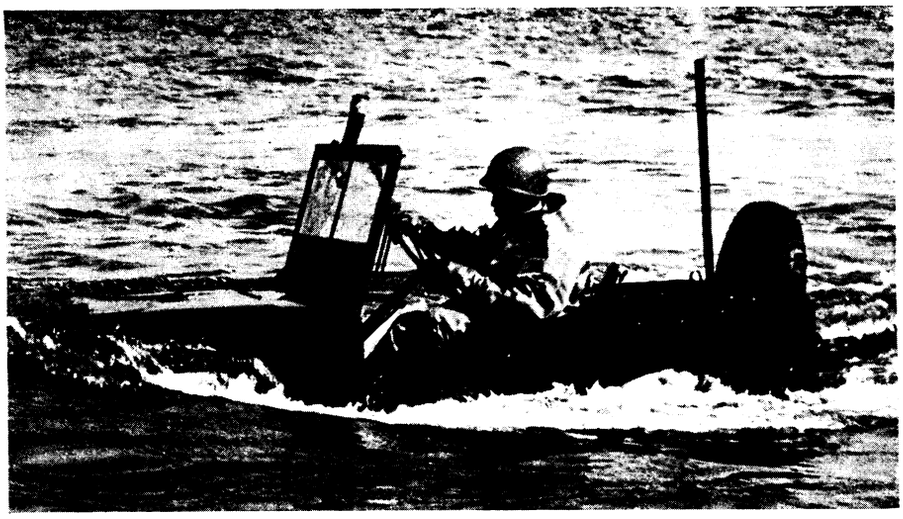
*Vanillin,* within the past decade, is obtained from lignin, a by-product of pulp and paper mills, lignin from coniferous woods being used chiefly; after purification the product has fine vanilla aroma.

Due to conversion of some of the great *explosive plants* to fertilizer production, farmers are now being assured the largest nitrogen supply for their crops they have ever had.

In the two states of Oregon and Washington there is enough commercial *saw timber* at present to build 73,000,000 five-room houses, or two houses apiece for every family in the United States.

*Crude fats* are being used since the war for making high-grade soap and soap flakes; formerly used only for harsher laundry soaps, a process involving the use of sodium chlorite now gives them wider use.





*SUBMARINE JEEP—"Deep-water fording kits" equip jeeps for underwater operation at beaches and in fording streams. The jeep is made operable in water one foot higher than the hood for a period of 15 minutes. (See SNL, Oct. 26.) Official U. S. Navy Photograph.*

AERONAUTICS

# Planes Made of Plastic

**Glass fiber plastic wings for planes meet strength tests. Operational advantages include efficiency for high speed, heat resistance and resiliency.**

➤ AIRPLANES of the near future may be made of glass—not the windowpane variety, but glass fiber bonded in resin to form a strong plastic.

Wings of this material, designed and constructed by the Army Air Materiel Command, have now proved in flight that they meet all strength requirements and have other advantages.

A fuselage of the same material has satisfactorily passed service flight tests covering hundreds of flying hours both in the United States and in Alaska.

An all-glass-fiber airplane is the acknowledged objective of Army aviation engineers. The all-glass fiber fuselage tested 50% stronger on a strength-weight basis test than the standard metal fuselage. The all-glass-fiber wing withstood 105% of the required load without any buckling or wrinkling occurring in its glass-like surface.

The plastic used is composed of 55% glass fiber and 45% resin. The basic process involved in the fabrication of a laminated glass wing is relatively simple. Cloth woven from glass fiber is impregnated with resin in a simple semi-automatic coating machine. Layers of this are laid in an inexpensive mold conforming to the finished contour of the wing.

Strips of light-weight cellular cellulose acetate are wrapped with a thin layer of glass cloth to form a core of a sandwich construction. Next, additional sheets of the impregnated glass cloth are laid over the core to complete the sandwich. Heat and pressure are then applied. The completed new wing, which is made in two halves and then bonded together, provides a clean interior entirely free of the ribs and cross-bracing of conventional metal wings.

Operational advantages of the glass fiber wings include efficiency for higher speeds because the glass-like surface has none of the rivets and joints of metal wings. Also, their greater rigidity results in smoother flow of air over their surfaces.

Other features of the glass wing include heat resistance and resiliency, which will perhaps make it adaptable for supersonic speeds. Its electrical characteristics make it particularly suited for applications in the construction of pilotless planes directed by radar.

*Science News Letter, November 2, 1946*