

New Products and Equipment . . .

Agricultural Airplane

Piper Aircraft has introduced its new agricultural airplane, the Piper Pawnee, for spraying or dusting.

The Pawnee has a 150 hp. Lycoming engine, gross weight of 2300 lb., useful load of 1100 lb., and hopper capacity of 150 gal. or 20 cu. ft.

The hopper tank is constructed of polyester plastic reinforced with fiber glass for maximum corrosion resistance. It has short fore-and-aft dimension and steep-sloping walls that enable dust to slide out easily. The hopper has a large sealed door which hinges forward and lies flat on the fuselage top, out of the way. Opening is entirely clear of the wings. It can be loaded by hand or by a mechanical loader. The top of the hopper forms the top of the fuselage and can be removed or installed in minimum time. Fabricated of transparent fiber glass, it permits tank's load level to be seen by the pilot. Two quantity scales, one for level flight and one for ground angle, are marked in large numbers on the back side of the hopper in front of the control stick. Hopper is located approximately on the plane's center of gravity so that no change in longitudinal trim is required as the load changes from full to empty.

Cockpit of the Pawnee has been placed as far aft as possible for safety and as high as possible for maximum vision.

Spray system is a 1-in. Simplex centrifugal pump with improved seals. Nozzles are on a boom located to the rear of and slightly above the trailing edge of the wing but dip under the walkways and fuselage. For dry chemicals a venturi distributor has been developed; it can be used with dust, seed, and fertilizer.

For further information, contact Dept. A&F, Piper Aircraft Corp., Lock Haven, Pa.

New Polyethylene for Fertilizer Bags

A tough polyethylene film has been developed by Chippewa Plastics for its industrial bag, the company has announced, permitting a 40% reduction in the gage of the material for the heavy-duty bag. The new bag is expected to be used for shipping and storing ammonium nitrate fertilizer, peat moss, hybrid seed corn, and other materials requiring absolute moisture protection.

Identified as the type B Chippewa industrial bag, it appears to have im-

proved puncture and snag resistance despite thinner walls, company researchers say. It incorporates, also, the recently-developed Chipp-a-Weld seal that brings the strength of sealed areas virtually up to the strength of the bag itself.

The Type B bag is available in limited quantity to prospective users for experimental purposes, the company said. Further information can be secured by writing Dept. KP-34 (A&F), Chippewa Plastics Co., Chippewa Falls, Wis.

Single or Double Spinners on Fertilizer Spreader

The Challenger, a PTO-driven lime and fertilizer spreader, is available with single spinner and 18-in. conveyor or double spinners and a 24-in. conveyor from Highway Equipment Co.

The Challenger is a positive feed, self-unloading spreader. The conveyor and spinner system operates off the PTO. Body capacities range from 4.6 cu. yd. on the 9-ft., single-spinner body to 8.8 cu. yd. on the 15-ft., double-spinner model.

Literature and complete specifications may be obtained from Highway Equipment Co. Dept. A25-7 (A&F), 616 D Ave., N.W., Cedar Rapids, Iowa.

Custom Synthesis of Carbon-14 Compounds

Nuclear-Chicago Corporation has announced it will custom synthesize chemical compounds labelled with radioactive carbon-14.

Request for custom synthesis may be directed to any Nuclear-Chicago branch office or to the home office. Included should be information on total radioactivity, specific activity, and position of labelling desired. An evaluation normally requires 30 days, at which time the customer will be advised concerning production feasibility, price, and delivery.

Further information is available from Dept. A&F, Nuclear-Chicago Corp., 333 East Howard Ave., Des Plaines, Ill.

Trace Element Fertilizer For Gardens

A product for mineral starved indoor and outdoor garden plants has been placed on the market by Nutrilite Products, Inc.

Known as Key Green, it offers an essential trace mineral compound in

phosphate form, it is said. The product contains nitrogen in ammonia form, phosphoric acid, iron, zinc, and manganese, all chemically derived.

For more information, write Dept. A&F, Nutrilite Products, Inc., Buena Park, Calif.

Pelletizing-Mixing Disks

Production of a standard line of pelletizing-mixing disks for continuous agglomeration and mixing of a variety of fine granular solids has been announced by Dravo Corp. Disks will be made in 3.25-ft., 8.5-ft., 12-ft., and 16.5-ft. diameters. The smallest disks will be stocked for sale or short-term rental for pilot plant studies.

Developed and designed by Lurgi Co. of Frankfurt, Germany, and adapted to American standards, the disks are manufactured and sold in this country by Dravo under an exclusive license agreement with Lurgi.

The disks are equally effective for either pelletizing or mixing. When employed for mixing, the disks are run at substantially higher speeds, and can handle large volumes of material in relatively short times.

Among materials successfully pelletized have been ammonium sulfate and phosphate rock fines. Experience indicates that most fine materials can be pelletized to any size from $1/16$ to 1.5 in.

Fines are fed onto the disk and water or waste liquors are sprayed on them. The disk's rolling action pelletizes the fine material and automatically classifies the pellets. Because larger pellets roll toward the disk rim while smaller ones stay near the center or under large ones, only the larger pellets are discharged over the rim when the disk is filled.

In mixing applications the rotation of the disk produces a tumbling, cascading action in the materials to be processed. The resultant mingling of materials approximates the action of conventional batch mixing and blending equipment. However, the disk provides continuous mixing, permitting uninterrupted flow of materials.

Laboratory tests and performance in actual applications indicate that the disk attains a given homogeneity of mixture with significantly less retention time than conventional batch or continuous mixers. Retention time is controlled by changing the disk's speed of rotation and angle.

For further information, contact Dept. A&F, Dravo Corp., Neville Island, Pittsburgh 25, Pa.