

Finds Practice Has Potential

Seed Firm Plants by Plane

The day may come when corn growers plant with airplanes and harvest with small grain heads on their combines, but that day hasn't arrived yet, says John Batcha, Midwest Manager of Asgrow Seed Company. Asgrow, a subsidiary of The Upjohn Company, experimented with that coningrowing technique last season at its research station near Ames.

A 3½ acre test plot at Ames, Iowa, was planted with an airplane, using two short season Asgrow varieties—IXL4 and an experimental hybrid called H68307. For comparison, the same two varieties were planted conventionally in 30 inch rows in the same field the same day.

According to J. Brenton Mc-

Kee, Manager of the research station, the varieties were selected because of their excellent yield and standability under high population conditions. Minnesota maturity ratings of the hybrids are 105 days for IXL4 and 85 days for H68307.

Soil preparation of the plot for the aerial planting experiment was about the same as for conventional planting. The pilot who did the planting, Bob Shrier, flew 15 to 20 feet above the field at 80 to 85 mph, covering a swath 70 to 80 feet wide at each pass. He estimated that he broadcast about a bushel of corn every nine seconds.

A cultivator with spring tooth attachment was used to cover the seed after it was sown. Good weed control was obtained with a broadcast application of four pounds of Atrex plus one gallon of oil.

"Two problems with the aerial seeded corn soon became apparent," reported McKee, "uneven emergence, probably due to differences in seed depth, and uneven plant distribution. Large areas had no plants while other areas had populations as high as 70,000 plants per acre. We were trying for a final population of about 35,000 per acre with H68307 and 30,000 with IXL4."

When the plots were harvested in mid-November, the aerial-seeded H68307 yielded 77.6 bushels per acre at 16.43 per cent moisture while the same variety in 30 inch rows yielded 82.8 bushels at 15.6 per cent. The IXL4 yielded 76.6 bushels per acre at 18.34 per cent moisture in the aerial seeding and

134.2 bushels at 17.9 per cent in 30-inch rows.

"We feel the primary reason for the lower yields in the aerial-seeded plots was the uneven distribution," states McKee, "which resulted in barren plants as well as bare spots in the field. In the area directly beneath where the plane flew, the stand was very thin. Population at the outer edges of each swath was very high. At one end of the field, where the pilot had to fly higher than 20 feet because of low of trees, the distribution was more uniform. That leads us to believe a more uniform distribution might have been obtained if the corn had been seeded from a higher altitude."

One of the things Asgrow wanted to find out was whether an aerial seeded corn crop could be harvested successfully with a conventional small grain head

We experimented with both a John Deere combine and a Massey-Ferguson combine with a 'Hume' reel," says McKee.

"Field losses were low with both machines, around three to four bushels per acre, but due to the large amount of stalk and plant that had to be taken, ground speed was cut in half from normal row harvesting."

Is there a future for aerial seeding of corn? McKee sees several potential benefits in the practice. "First, there's saving of time and labor," he explains. "One man could plant several hundred acres a day with a plane."

"Second, there's timeliness. Studies have shown a potential loss of about one bushel per acre per day for every planting day delayed after May 10 in this area."

"If a cool, wet spring threatened to seriously delay plant-

ing, farmers might be able to prepare the ground for aerial seeding with a shallow tillage operation when it couldn't be prepared for conventional planting. And the yield might be greater than the yield from a conventional planting made two or three weeks later.

Third, there's a possible saving of time and equipment expense by using a standard grain head for harvesting corn. A farmer could move from harvesting grain or soybeans to harvesting corn without changing the head on his combine, and he wouldn't have to invest in a corn head.

"I wouldn't advise any one to rush right out and trade his planter for an airplane," McKee concludes, "but Asgrow intends to continue research on aerial seeding. The potential benefits of time, labor and cost savings are enormous."

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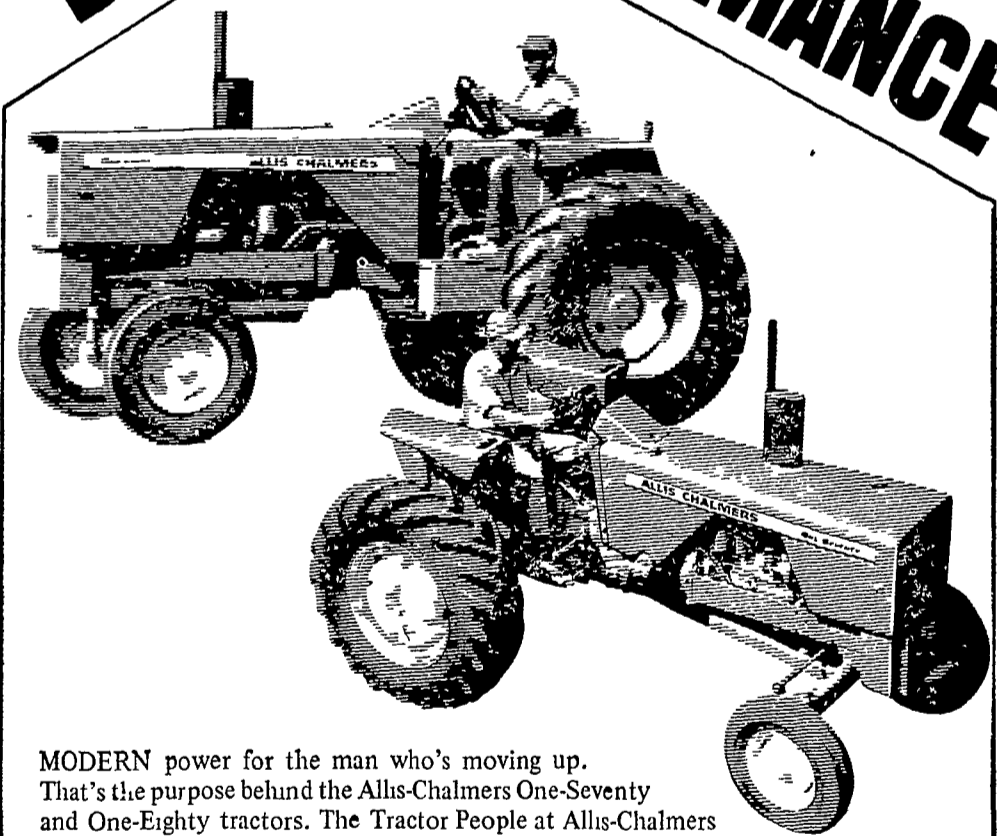


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