NOTES

TRACTOR AND PLANTER FOR PREPARATION AND PLANTING OF PLOT LAND

An 8-WHEEL tractor with an 8-row seeding attachment was developed to improve the efficiency and timeliness of preparing and planting experimental small grain plots that leave tracks of crop plants located in and between the tracks. To distribute the tractor weight more uniformly over the area covered by standard 8-foot cultivating and seeding equipment, the running gear of a row-crop tractor type Model 740 Ford tractor was provided with 8 wheels. The wheels were arranged so as to produce 8 tracks spaced 1 foot apart center-to-center and uniformly indented on level land. This new arrangement was produced by replacing the standard rear wheels with tri-wheels and by re-spacing the 2 front wheels so that their tracks are evenly spaced between the 2 inside tracks of the tri-wheels. All wheels have 6-inch tires.

The tractor is equipped with a creeper gear to provide the very slow speeds required for nonstop seedling with the 8-row planter attachment and for cultivating with an 8-row rotary hoe plot cultivator present under construction. The tractor, Figure 1, is also equipped with pilot markers, a cab to shelter the planter and its operating crew during inclement weather, and a ballast box on the front end to offset the weight of the planter.

The 8-row planter attachment was built for nonstop, end-to-end seeding of single-row or multiple-row plots in or between the tractor tracks. It is composed of 8 single-row planters operated in unison through two 4-row seed-distributing heads. Each single-row planter has a separate seed channel to permit independent seeding of individual rows, varieties, and rates. Each single-row planter is independently adjusted for depth of seeding and for flotation over uneven seed beds. All the planters, however, are held to a 1-foot spacing by a tie bar.

Seed can be delivered to the seed-distributing heads either in coin envelopes and emptied by hand or in compartmented plastic boxes and emptied semi-automatically. The compartmented plastic box with its sliding lid, Figure 2, holds 24 individual samples of seed, enough to plant 6 consecutive 4-row plots. One such box on each 4-row distributing head permits semi-automatic seeding of six 8-row plots end-to-end, or 48 individual rows, nonstop within 30 seconds. Each emptied box can be easily replaced with a loaded one within 15 seconds.

Plot seeding can be done by a single person or by a 2- or 3-man crew. If seed is delivered to the distributing heads in compartmented boxes, a 3-man crew can plant nonstop one 8-row plot 8 feet long every 8 seconds, averaging 1 row a second. A 2-man crew can maintain a nonstop pace of 48 individual rows or 6 8-row plots in 30 seconds.

As the first plot is being seeded, a second seed sample can be dropped into the settling chamber. These samples are held in reserve on the floor until the planter completes the first plot, when it is tripped into the groove. Immediately thereafter the seed tube funnel is shifted from the first groove to the newly loaded groove. This operation completes the seeding of the first plot and commences the seeding of the second groove. The swinging funnel was shifted to the alternate groove, the seed drops through the remnants hopper into the

Figure 1—Side view of tractor and planter attachment.