A METAL PLANT BAND

THERE is a sizable industry in the manufacture and sale of paper bands and pots for starting seedlings that are later transplanted to larger pots or into the field or garden. A considerably bigger industry would be possible if more satisfactory containers were available. Bands help to contain the growing roots, and in transplanting, a fairly definite amount of soil is retained by the seedlings, resulting in less damage to the root system. Consequently, seedlings transplanted from bands are not set back in development so much as those transplanted from soil flats without the aid of bands.

Because of certain well-known disadvantages that paper and wooden bands have, in addition to a deleterious effect on plant growth\(^2\), the writer tried to work out a practical plan for making bands from sheet metal. The original idea was improved upon by Gus Tornsjo (formerly mechanician in the machine shops at the University of Missouri), who made some dies and showed student laborers how to use the dies and the machines required to operate them. The students turned out about 8,000 of the bands, cutting strips out of 28-gauge galvanized sheet metal and shaping them into bands. These bands were approximately 2 inches square and 2 1/2 inches deep, but later 3,000 of a smaller size (about 1 1/2 inches square but the same depth) were produced. Some of the bands are shown in Fig. 1. Both sizes have now been used over a period of 11 years by the Genetics Group and members of other departments at the University of Missouri and have proved highly satisfactory.

No record has been kept of the number of times the bands have been used, but it may be conservatively estimated that on the average each band has been used six times per year. Thus, the bands have been used at least 60 times. Only in the last year or two have the bands shown much evidence of rust, and 80% or more of the bands are still in use. Actually, almost all of the bands no longer in use became unusable from abuse, being stepped on, run over by vehicles, lost, etc., rather than from deterioration.

At the time the metal bands were first used instead of paper bands, it was noted that the seedlings grown in the metal bands seemed to have better color and vigor. Recently tests were made comparing seedlings grown in the metal and paper bands. The paper bands tested were a light cardboard commercial type (not impregnated with paraffin or nutrients) and the metal bands were some of the best of the 11-year-old bands.

Comparisons between the paper and the metal bands were made using seed from a single ear of open-pollinated yellow field corn, Purdue No. 31 hybrid popcorn, and Stokesdale tomatoes. The bands (2-inch size) were put in standard greenhouse flats (14 x 20 inches), 70 bands to the flat. In the test using field corn, half of the bands in the flat were metal and half were paper; in the other tests whole flats were made up with only one type of band. The soil used was well pro-

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