DESIGN OF HERBICIDE APPLICATION EQUIPMENT FOR THE SMALL FRUIT AND VEGETABLE FARMS, Joe Masabni, Assistant Professor, Department of Horticulture, University of Kentucky, Princeton, KY, 42445.

Fruit and vegetable industries in Kentucky are small in terms of acreage and sales dollars relative to agronomic crops in Kentucky or to similar crops in the region. Many tobacco farmers took advantage of the tobacco buyout and are now raising fruits and vegetables. In addition, new farms have been established as non-traditional farmers are planting fruits, small fruits, or grapes. As a results, farms are small in size and can't invest in large or expensive spray equipment to justify the economic returns. Several herbicide spray equipment have been built and are being used at our research station as educational material to show our growers that a large capital is not needed to efficiently spray herbicides as part of their operation. The first equipment was modifying a plastic layer to include a nozzle directing the herbicide spray on top of the newly-formed raised bed, just before the plastic mulch is laid. This is useful for application of halosulfuron under plastic in tomato production, per label recommendation. This design is needed in Kentucky as our growers use equipments that shape the bed and lay plastic at the same time, unlike other equipments used elsewhere where bed formation and plastic laying are separate operations. The second equipment allows fruit and small fruit growers to apply herbicides by installing a 2-nozzle boom on the side of a gator. When used with a speedometer and an electric switch, one person can apply herbicides at a comfortable speed simply by driving a constant speed. The third equipment modifies a ZTR mower to include a pull-behind sprayer and a 2-nozzle boom attached to the front. This allows a grape grower to spray herbicides and mow the row middles in one pass.

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