

Effect of soil physical properties on draft of the rotary spider weeder tyne

K V S Rami Reddy, Aum Sarma, S Joseph Reddy, M RaghuBabu and M Vijay Kumar
College of Agricultural Engineering, Bapatla 522101, Andhra Pradesh

Tractor operated weeding implements can save about 75% time and 20% cost as compared to conventional methods. The rotary type weeder stirs the soil more accurately, disturb the weed root and remove them from the soil and pulverize the soil effectively. Soil physical properties are important in design point of any weeders. The interactions between these parameters directly affect the power requirement to operate the machine. Hence, a study was conducted on effect of soil physical properties on the draft requirement of tyne. Soil moisture content is an independent parameter while, bulk density and soil resistance as dependent parameters were measured at respective soil moisture content. Bulk density and soil resistance decreased with increase in soil moisture content. Draft increased with the increase of forward speed at all levels of soil moisture content.

Key words: Bulk density, Draft, Spider weeder, tyne, Soil moisture content, Soil resistance.