

Effect of different tire inflation pressures on drawbar performance of tractor in different gear setting

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■ **ABSTRACT** : The field performance of tractor includes the selection of correct tire inflation pressure, drawbar height and suitable gear for the better field performance and reduced cost of operation with increased service life. Keeping these points in view, the study was undertaken to select the height of hitch, tire inflation pressure and gear setting for the maximum drawbar pull and power with reduced fuel consumption by taking four different levels of tire inflation pressures at five different gear settings with 46 hp tractor. The test parameters such as dynamic rolling radius, height of hitch, wheel slip, traveling speed, drawbar pull, drawbar power and fuel consumption were measured as per IS: 12226 (1995). For measurement of the parameters load car with all the sensors measuring the parameters as per the IS code were utilized. At 0.555 m drawbar height and 1.2 kg/cm² tire inflation pressure the better values of drawbar pull, drawbar power and fuel consumption together were found for L3 gear at all the tire inflation pressures.

■ **KEY WORDS** : Drawbar pull, Tire inflation pressure, Drawbar power, Height of hitch

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