Repair and Maintenance Cost Models for Agricultural Equipment in Saudi Arabia

Mohammed F. Wahby; Saleh A. AL-Suhaibani

Repair and maintenance cost models were developed in both exponential and multi linear equations. The accumulated cost per list price was calculated by two different methods; the first by using the accumulated working hours, while the second by using the percentage of machine age (years) to its expected wear out life. When the published repair and maintenance models were applied to Hail Agricultural Development Company case, it was found that the expected costs were higher than Hail Agricultural Development Company actual costs. That could be due to the unsuitable adoption conditions of such models. It is recommended that each area or country should develop its own models according to its operational, economic, and field conditions. Grouping machinery into different categories according to its power, age (life), or cutting width would provide better models to predict repair and maintenance costs than general models. In most cases, multi linear models employing many variables in the equation gave better cost prediction with higher confidence and less variation than exponential models.