

## **Manufacturing of agricultural machinery; selection of material and interchangeability of components**

**Dushyant Singh, K P saha, R K Pajnoo, Sunil Kumar and PC Bargale**  
Central Institute of Agricultural Engineering, India

Majority of Indian population earns their livelihood from agriculture and allied activities but their interest is declining toward agriculture. Due to development in industrial and infrastructural sectors as well as government run schemes for employment generation in rural areas, the availability of manpower for agricultural operations has also been reduced. Agricultural mechanisation has played a crucial role in optimum utilization of costly farm inputs, reduction of labour intensiveness and improving farm production and productivity. Timeliness in operation by using improved farm equipment highly influenced the output in agriculture. The service life of fast wearing components of agricultural machinery can be improved by enhancing the durability of fast wearing components as well as increasing the interchangeability of these components. In India, the main source of supply, repair and maintenance of farm equipment are village artisans or tinny and small scale industries. They are manufacturing agricultural machines as per their own design which leads to poor interchangeability of the components. The service life of these components can be improved by using suitable available material with proper bulk or surface treatment for obtaining excellent combination of mechanical and tribological properties for increasing the service life of such components. This study reveals that manufacturing process, interchangeability, selection of material and treatment significantly improve the service life of fast wearing components which leads to reduction in cost of cultivation and higher production and productivity.

dsciae@gmail.com