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RESEARCH ARTICLE

# Some engineering properties of wood apple (*Feronia limonia* L.)

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## SUMMARY

The wood apple (*Feronia limonia* L.) fruit is an underutilized fruit having extensive therapeutic and functional properties. But unfortunately, it is unpopular and underutilized fruit because of lack of mechanical technologies for plucking/ harvesting, picking, cracking, processing and transportation, separating and packing and for removing of pulp of wood apple. The engineering properties (physical, gravimetric, frictional and mechanical) of the wood apple fruit aids in the assessment of the internal and external structure of the fruit. Wood apple (*Limonia acidissima* L.) belongs to the family Rutacae and it is commonly found in dry plains of India, known by different vernacular names such as kavatha, Kaith, Kath bael, etc. The average moisture content of wood apple shell and pulp was found as 52.63 % and 76.12 %, (w.b), respectively. The average length, breadth and thickness were 70±8.33, 70.70±9.13 and 69.20±8.87 mm, respectively whereas the fruit is considered to be spherical-shaped fruit having sphericity and the mass of the fruit found as 0.96 and 222.9 g, respectively. The average bulk density, true density porosity and angle of repose were 0.6744 g/cc, 1.0017 g/cc and 0.3268, 5.33 degree, respectively. The fruit has less co-efficient of friction on galvanizes (0.0932). The mechanical properties *viz.,* compressive stress and shear stress were also measured as 1421.46 N and 1291.76 N, respectively. This research work on engineering properties conveys a broad area of information on wood apple fruit that can be positively recommended for design of processing equipment, storage structures, thermal processers, graders etc. and product development, beneficial to promote commercialization.

**Key Words :** Wood apple, Physical, Engineering properties

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