Low micronaire cotton are discounted which brings considerable loss to the US cotton industry. In apparel applications, these cottons present challenges like dye uptake, etc. and hence do not find marketability. Recent research at Texas Tech University is endeavoring to find value-added applications to these cottons such as liner materials in military wipes, needlepunched substrates that find applications in acoustic insulations, waddings, etc. To-date, preliminary studies have shown that low micronaire cottons can be successfully carded and needlepunched. This presentation will feature the development process and some important physical and mechanical properties of carded needlepunched cotton webs.