

Development of a Tobacco Quality Indicator (TQI) to Measure the Density and Moisture of Packed Tobacco – Uniformity of compaction in boxes of tobacco packed for shipment is a key issue for tobacco processors. Because the blocks of material are further processed by manufacturers prior to incorporation into end products, such as cigarettes, uneven density can cause difficulties in subsequent processing steps. The current method used to determine density uniformity involves the use of drive tubes, a very low tech method that has been around for many years and actually measures less than 1% of the total sample volume. TransTech was contacted by a tobacco merchant to carry out this feasibility study to determine whether its multi-frequency electrical impedance technology could not only replace, but also greatly improve their current methods for determining density uniformity as well as moisture level. Testing done in TransTech's labs concluded that indeed, the electrical impedance technology works very well on compressed tobacco. TransTech is currently seeking partners for the next phases of the program for development of a prototype system capable of being used to control the automation of all or part of the tobacco compaction process. This phase will be very application specific to the customer's precise needs on their processing line. To prove the technology, penetrating sensors mounted in sword-like probes will be used. Once proven, a non-penetrating sensor arrangement will be utilized.