Objective
The Product Development and Implementation division at Cotton Incorporated is currently seeking research proposals on the following subjects. Cotton Incorporated’s main goal is to promote the consumption of cotton among consumers. Therefore, our main focus is on applied research where the results can be quickly implemented into production.

1. Cotton bale/module wrap
   a. Evaluate the different types of cotton fabrics that have been used or are currently being used as bale wrap material for cotton fiber. The evaluation will comprise both the physical properties and durability of the material.
   b. Develop cotton fabrics with different constructions and evaluate the fabric samples as potential bale wrap/module wrap candidates. Apply any needed finishes to make the cotton wrap more effective and proficient for the end-use application. Carry out field-testing on the selected fabric wrap(s) to prove performance and durability.

2. Degradation study
   a. Record the degradation of cotton vs polyester in terms of their performance in simulated landfill conditions.
   b. Study the extended degradation (complete degradation) of cotton in fresh and seawater respectively.
   c. Evaluate the degradation of cotton as it flows through the waste, fresh and seawater conditions. The study should include a process to determine how long cotton would theoretically remain in the WWTP, next move to the fresh water source and finally move to the seawater until it completely degrades.

3. Literature review
   a. Generate a literature search and put together a detailed white paper on biodegradable synthetic fibers used in textile applications.
   b. Generate literature search and put together a detailed white paper on the presence of micro/nano fibers in air. The paper should include details such as the types of fibers, causes that generate these fibers and problems if any associated with breathing in of these fibers.

4. Novel applications
   a. Identify and/or develop sustainable dyes and sustainable dyeing or finishing processes for denim.
   b. Develop new and novel concepts for disruptive technology that can be applied to cotton at the various processing stages.

5. Dyeing
   a. Utilize latest technology to recycle spent dye bath or dye bath re-use in a more economical and practical manner.
   b. Propose concept with supporting research data on non-traditional dyeing methods that use less water (preferably no water) to dye cotton. This concept should be ready to scale up in an industrial environment.
Ideally, fabrics/technologies developed will:

1. Include at least 60% cotton.
2. Have a good hand and be comfortable to wear.
3. Be durable to at least 20 (ideally 30) home launderings.
4. Be low cost.

Preference will be given to projects that are smaller in scope and can demonstrate initial results in 6-12 months, with the option of being continued if results show promise. All projects must be completed by the end of 2020.

**Background**

The mission of Cotton Incorporated is to increase the demand for and profitability of cotton. Proposals with good commercial potential to impact the market are typically given priority. Applicants are encouraged to visit our company website for additional information about Cotton Incorporated: [www.cottoninc.com](http://www.cottoninc.com)

**Pre-Proposals**

Applicants are strongly encouraged to submit a pre-proposal before spending their time writing a full proposal. The pre-proposal can be as simple as an email that explains in a few paragraphs the basic concept and approach of the research and allows us to work together to define targeted objectives that are mutually agreeable before a complete proposal is written. Please limit the number of pre-proposals submitted to less than five per person. Once the topic is approved, applicants will then be asked to submit a full proposal. Sufficient amount of time will be provided to complete the proposal. Pre-proposals in electronic form are due by **Friday, June 7th 2019**. Also, please note that pre-proposals sent after the due date will not be considered.

**Pre-Proposal Submission**

Please submit pre-proposals in electronic form by **Friday, June 7th 2019**. Full proposals will only be requested for specific projects that meet our criteria. Please submit pre-proposals to:

Mary Ankeny  
Vice President, PDI Operations  
Textile Chemistry Research, Cotton Incorporated  
919.678.2394  
[TCR-Proposals@cottoninc.com](mailto:TCR-Proposals@cottoninc.com)