

# **The Peanut Research Foundation**

## **Report to the**

### **Georgia Peanut Commission**

**February 10, 2021**

The 2012-2017 Peanut Genome Initiative (PGI) was the largest research project ever funded by our industry, with the \$6M cost shared equally among growers, shellers and manufacturers. The final report for that initiative can be found on The Peanut Research Foundation (PRF) website ([peanutresearchfoundation.org](http://peanutresearchfoundation.org)).

The PGI has given us a map with which we can unlock some of the genetic potential of the peanut plant. We now have the capability to find beneficial genes in cultivated and wild peanuts that can lead to even greater yields, lower production costs, lower losses to disease, improved processing traits, improved nutrition, improved safety, better flavor and virtually anything that is genetically controlled by the peanut plant. These accomplishments will depend on incremental scientific advances in gene discovery and the development of markers. Desirable traits will become reality as the result of aggressive breeding programs which are equipped to take advantage of these tools.

The scientific community has never promised instant results, and indeed, advanced breeding technologies in other crops have taken years to become available. However, this seemingly slow progress is considerably faster than the decades required by conventional breeding.

In 2020, the Peanut Genome Initiative – Phase II (PGI-II) began with the goal of advancing the process of marker assisted breeding in peanut. PGI-II, with considerable input from the industry, was designed to focus efforts on four issues; disease resistance (initially focusing on leafspot), flavor and other quality traits, drought tolerance and aflatoxin resistance.

The PRF board of directors, at its December, 2019 meeting, voted to fund 15 research projects for a total amount of approximately \$575,000. The Foundation received 27 proposals requesting a total of \$1.8 million. The American Peanut Shellers Association donation to the PGI-II is earmarked for aflatoxin research, and in 2020, five of the 15 funded projects targeted aflatoxin. Another five targeted disease resistance and the remaining five targeted drought tolerance, wild species utilization, or overarching issues such as PeanutBase and gene prediction (see research plan at [peanutresearchfoundation.org](http://peanutresearchfoundation.org)). Progress reports for specific projects can be seen in the PGI-II annual report on the same website. None of these 2020 projects have been completed as of the writing of this report. However, progress has been made on all 2020 projects and other projects funded in years prior to 2020 have been completed.

The PRF board of directors and other interested individuals within the peanut industry heard oral progress reports for 2020 projects on December 7, 2020. The Foundation made funding decisions for 2021 projects on December 8, 2020. Thirteen projects were funded for a total of \$539,000. Since there were not enough aflatoxin proposals to spend the available earmarked aflatoxin funds, a second call for proposals, specifically targeting aflatoxin, has been issued with a February 19 deadline.