

## **Release of Peanut Germplasm Lines with Resistance to Late Leaf Spot**

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Late leaf spot (LLS), caused by *Nothopassalora personata*, is a foliar disease that plagues peanut production worldwide. Chemical control is expensive, sometimes inaccessible, and can be difficult to apply. One effective solution to control this disease would be the development of resistant cultivars. We are releasing four runner-type peanut germplasm lines with resistance to LLS. TifGP-3 and TifGP-4 were selected from the cross of 'TifNV-High O/L' with IAC 322, a breeding line from Brazil with high resistance to late leaf spot due to alien introgressions from *A. cardenasii*. TifGP-3 has introgressed segments from *A. cardenasii* on top of chromosome A02, the bottom of A02 and the bottom of A03. TifGP-4 has the introgressed segments on the top of A02 and the bottom of A03. TifGP-3 and TifGP-4 exhibited a very high level of resistance to LLS. KASPar assays can be used to determine the presence or absence of each introgressed segment.

Previously, a recombinant inbred population from Florida-07 x GP-NC WS 16 segregating for both late leaf spot resistance and high oleic traits was used to perform genetic mapping for late leaf spot resistance by QTL-seq analysis. Kompetitive allele specific PCR (KASP) markers associated with major QTL conditioning resistance to LLS were developed and validated. Two recombinant inbred lines with top levels of field resistance to late leaf spot were selected from this population for release. Both lines possess the resistance alleles of all the genetic markers. One line (TifGP-5) has high oleic acid content and the other (TifGP-6) is normal oleic.

Releasing these four germplasm lines packaged with molecular markers provides the peanut breeding community with genetic resources that can be utilized through marker assisted breeding.