

2020 Disease Risk Index

Changes to Peanut Rx can be found in varieties and at-plant insecticides.

Losses to tomato spotted wilt continue to grow across the Southeastern region reaching an estimated 7% in 2019 and double the estimated losses from 2018.

Although the reasons for the increased losses in 2019 are not fully understood, it is possible that the warmer spring favored an increase in thrips populations. Decreased attention to production practices that mitigate tomato spotted wilt disease is another reason cited by researchers.

This research team reviews Peanut Rx each winter and makes changes to the risk index. Team members include: Robert Kemerait, Albert Culbreath, Eric Prostko, Tim Brenneman, Scott Tubbs, Rajagopalbabu Srinivasan, Mark Abney, Scott Monfort, Adam Rabinowitz, Cristiane Pilon and Sudeep Bag from the University of Georgia; Barry Tillman, Nicholas Dufault, Michael Mulvaney and Ian Small, University of Florida; Austin Hagan, Charles Chen, Alana Jacobson, Kris Balkcom and Amanda Strayer-Scherer, Auburn University; Brendan Zurweller, Mississippi State University and Dan Anco, Clemson University.

Updates To The Index

Growers can successfully manage TSWV and other important diseases using Peanut Rx. This disease risk index can help growers to better understand how careful selection of production practices can reduce the risk of disease losses. Peanut growers should be aware of production factors that increase or decrease their risk to spotted wilt, leaf spot and white mold.

Changes to Peanut Rx were primarily in the variety section, where new varieties are included or point values are changed as more is known about variety response to disease pressure in the field. An additional change was made in the section “At-plant Insecticide” to include the use of Thimet or Velum Total to decrease leaf spot risk compared to other products.

Varietal Value Changes

With additional data, risk points for spotted wilt points with respect to variety AU NPL 17 have been reduced from 15 to 10 as the variety has been found to have resistance equal to that of Georgia-06G. Spotted wilt points assigned to FloRun™ ‘331’ have been increased from 10 to 15. One new variety has been added to the 2020 version of Peanut Rx. Georgia-18RU has 10 risk points for tomato spotted wilt, 25 risk points for leaf spot and 20 for white mold.

No variety of peanut is immune to TSWV. However, some varieties have consistently demonstrated moderate levels of resistance. In addition to resistance or reduced disease incidence, some varieties appear to have some degree of tolerance, which is a reduced severity in infected plants. Increased levels of resistance and tolerance are anticipated since peanut breeding programs are now evaluating potential new varieties for response to TSWV.

As in the previous versions of the disease index, growers will note that attention to variety selection, planting date, plant population, good crop rotation, tillage and other factors can have a tremendous impact on the potential for diseases in a field.

At-Plant Insecticides

In general, the use of insecticides to control thrips, the insect that transmits or vectors tomato spotted wilt virus, has been an ineffective means of suppressing the disease. In theory, reducing overall thrips populations should effectively reduce TSWV. Additionally, growers now have a selection of products effective in killing thrips. However, most insecticides have proven to be ineffective at suppressing the primary infection, which accounts for most virus transmission in peanut fields.

Despite the overall disappointing results with insecticides, one chemical, phorate (Thimet 20G), has demonstrated consistent, low-level suppression of TSWV. The mechanism of this suppression is not known, but the level of thrips control obtained with phorate is not greater than that obtained with other insecticides. Phorate may induce a defense response in the peanut plant that allows it to better resist infection or inhibits virus replication.

In a change outlined in the 2020 Peanut Rx, use of either Thimet 20G or Velum Total slightly reduces the risk to leaf spot diseases compared to other products applied for early season insect control.

TSWV: A Complex Disease

When tomato spotted wilt virus infects a host plant, it can severely weaken or kills the plant. The virus is capable of infecting a number of plant species, including peanut, tobacco, tomato and pepper crops. The only known method of TSWV transmission is from certain species of thrips that have previously acquired the virus by feeding on infected plants. The factors leading to the rapid spread of this disease in the Southeast are complex, and no single treatment or cultural practice has been found to be a consistently effective control. Research continues to identify factors that influence the severity of TSWV in individual peanut fields.

For additional information, refer to the complete Peanut Rx available from state or local Extension specialists or at <https://peanuts.caes.uga.edu>. PG



BUGWOOD.ORG



BUGWOOD.ORG