IN THE FIELD, ON THE SCALE, AT THE GIN

PHYTOGEN VARIETIES PAY
PIMAS

The criteria for selecting a cotton variety for your farm has become a bit more complex. A decade ago, you chose the highest-yielding variety. Now, multiple factors are considered, including yield, fiber quality, early maturity, disease resistance and over-the-top weed control. But while selecting a variety may be more complex, it also allows you to plant varieties to specific field situations. Regardless of your growing situation, PhytoGen has a variety that is perfect for you.

PHY 802 RF Pima

- Genuity® Roundup Ready® Flex
- Fusarium Race 4 Tolerance

PHY 802 RF was introduced in California in 2011 on a very limited basis. Parentage is PHY 800. Fiber quality is excellent – with both the longest and strongest fiber of any PhytoGen variety. Crop maturity and yields have been about the same as PHY 805 RF.

PHY 802 RF showed exceptional plant vigor when planted under cool conditions (2011) and under warmer conditions (2012). PHY 805 RF also exhibits exceptional vigor under cool and warm growing conditions.

Based on limited acreage in 2012 and 2013, yields have been similar to PHY 805 RF. Four bales per acre were achieved in multiple fields.

In university and USDA-ARS field trials, PHY 802 RF has been highly-tolerant to Fusarium Race 4.

NEW PHY 811 RF Pima

- Early Maturing
- Genuity Roundup Ready Flex
- Fusarium Race 4 Tolerance

The newest Pima to the PhytoGen lineup, PHY 811 RF has many of the same characteristics as other PhytoGen varieties, with the additional benefit of early maturity. PHY 811 RF is expected to mature 5-7 days earlier than PHY 805 RF. Yields are expected to be similar to PHY 805 RF. Parentage is PHY 800.

Trials have shown a high level of tolerance to Fusarium Race 4.

PHY 805 RF Pima

- Excellent Fiber
- Genuity Roundup Ready Flex

PHY 805 RF was the first commercial Pima with Genuity Roundup Ready Flex. Parentage is PHY 800. It has been the most widely-planted Pima in California for the last four years.

Crop maturity and fiber characteristics are similar to PHY 800. Generally, PHY 805 RF outyields PHY 800 by an average of 3%.

PHY 805 is tolerant to Race 4 Fusarium but slightly less so compared to PHY 802 RF and PHY 800.

PHY 830 Pima

- Earliest-Maturing Conventional

PHY 830 offers yields and fiber quality similar to PHY 800. PHY 830 matures 7-10 days earlier than PHY 800, which may be valuable in the northern San Joaquin Valley or when planting schedules are behind. Four bales per acre have been achieved by PHY 830 in many fields. PHY 830 is susceptible to Fusarium Race 4.
PHY 725 RF Acala

- High Yields
- Flex Technology
- High Quality Fiber

In 2011, the Agricultural Research Service-led National Cotton Variety Test chose PHY 725 RF to be its new “standard” variety in the West. For the previous six years, that standard was PHY 72. Varieties introduced in the West will now be compared to PHY 725 RF to measure cotton breeding progress.

PHY 725 RF is the most widely-planted Acala in California. It is very adaptable, capable of producing high yields in a wide range of soil types and growing conditions. 4-Bale yields have been consistently reached in dozens of fields from Merced County to Kern County. On average, this variety yields slightly better than PHY 755 WRF.

Long staple length (the same as PHY 72) may allow premiums to be reached from roller ginning. Furthermore, the good grades of PHY 725 RF are maintained year after year, regardless of environmental conditions.

PHY 725 RF exhibits a natural senescence at the end of the season, a characteristic that often allows once-over defoliation before harvest. Open bolls hold tighter in lock than PHY 72.

PHY 755 WRF Acala

- Highest Fiber Quality
- WideStrike® Insect Protection
- Genuity Roundup Ready Flex

A “stacked” variety from PhytoGen combines Genuity Roundup Ready Flex with WideStrike® Insect Protection. Parentage is PHY 72. PHY 755 WRF is widely-adaptable and has high-yield potential.

In addition to valuable agronomic traits that help you in the field, the phenomenal fiber characteristics of PHY 755 WRF help you at the gin. The staple length of PHY 755 WRF is 40! With more and more gins utilizing roller gin technology for Acalas, a long staple length will help you achieve premiums.

WideStrike provides season-long protection against worm pests, like beet armyworm and looper. WideStrike is a two-gene insect protection trait that is not found in any other Bt cotton. WideStrike can be helpful in high worm pressure areas and/or where cotton is planted near alfalfa.
NEW PHY 499 WRF Upland

- Very High Yields
- Genuity Roundup Ready Flex
- WideStrike Insect Protection

New to California, PHY 499 WRF is a “stacked” variety that combines Genuity Roundup Ready Flex and WideStrike Insect Protection. PHY 499 WRF was the most widely-planted variety in the United States in 2012 and 2013. It is a mid-maturing variety.

In the Cotton Belt, PHY 499 WRF has performed well in every state and under a variety of weather and soil conditions. It is considered widely-adaptable, and maintains its high yields regardless of growing environment.

Large scale commercially-planted fields in California in 2012 and 2013 had yields well over 4 bales per acre.

### QUICK REFERENCE

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<tr>
<th>Traits</th>
<th>Maturity</th>
<th>Seedling vigor</th>
<th>Verticillium</th>
<th>Fusarium</th>
<th>Micronaire</th>
<th>Staple length (inches/32nds)</th>
<th>Strength (g/tex)</th>
<th>Plant height</th>
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<td>PHY 811 RF</td>
<td>Genuity Roundup Ready Flex</td>
<td>Early-mid</td>
<td>Excellent</td>
<td>Tolerant Tolerant (Race 4)</td>
<td>4.18</td>
<td>1.46/48</td>
<td>45.1</td>
<td>Med-tall</td>
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<tr>
<td>PHY 802 RF</td>
<td>Genuity Roundup Ready Flex</td>
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<td>Excellent</td>
<td>Tolerant Tolerant (Race 4)</td>
<td>4.1</td>
<td>1.46/48</td>
<td>47.1</td>
<td>Med-tall</td>
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<td>Mid</td>
<td>Excellent</td>
<td>Tolerant Tolerant (Race 4)</td>
<td>4.34</td>
<td>1.43/46</td>
<td>46.6</td>
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<td>PHY 830 Pima</td>
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<td>Tolerant Susceptible (Race 4)</td>
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<td>1.40/44</td>
<td>43.7</td>
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<td>Good</td>
<td>Moderate Moderately Susceptible (Race 4)</td>
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<td>PHY 725 RF Acala</td>
<td>Genuity Roundup Ready Flex</td>
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<td>Very Good</td>
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<td>4.3</td>
<td>1.20/38</td>
<td>34.8</td>
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<td>PHY 499 WRF Upland</td>
<td>Genuity Roundup Ready Flex, WideStrike</td>
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<td>Excellent</td>
<td>Tolerant Tolerant (Race 4)</td>
<td>4.8</td>
<td>1.16/36</td>
<td>33.0</td>
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Genuity Roundup Ready Flex

Flex technology allows over-the-top Roundup applications all season long. In fields where weed pressure is high or where weeds like morningglory, field bindweed, nutgrass, pigweed, purslane and watergrass are still present in the summer, Flex varieties are an excellent fit.

With weeds being controlled using herbicides, the use of crews can be minimized and fewer cultivation passes are required, practices that result in more savings for you.

Fusarium Race 4

More than 300 fields have been identified as infected with Fusarium Race 4 since the disease was discovered in California in 2001.

Fusarium Race 4 can be spread by water, equipment and dirt. Containment within an area is nearly impossible and largely impractical. Crop rotation can reduce inoculum levels but not eliminate it. The best strategy to date has been use of tolerant varieties.

UCCE, USDA Trials

For the last several years, UC Extension and USDA-ARS have conducted variety screening trials in a severely infected field in the southern San Joaquin Valley. Both Pimas and upland/Acalas were evaluated.

While no varieties were found to be resistant, some varieties have a high level of tolerance. To determine that level of tolerance, factors such as plant mortality and vascular root staining were measured.

In all years, PHY 802 RF and PHY 800 exhibited a high level of tolerance to Fusarium Race 4. PHY 805 RF exhibited a slightly lower level of tolerance.

All uplands/Acalas were found to be susceptible to Fusarium Race 4. Planting those varieties in an infected field is not recommended.

Fusarium Race 4 Resources

UC Extension website: www.cottoninfo.ucdavis.edu
CA Cotton Growers and Ginners Association: www.ccgga.org
Western Farm Press: www.westernfarmpress.com
TO LEARN MORE

To learn more, contact your cottonseed dealer or your PhytoGen representative.

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