Blanc Du Bois Takes Root
A winegrape found in Texas and the southeast is tolerant of Pierce’s disease
By Fritz Westover

The southeastern United States is a difficult climate for grape production. Frequent and heavy rainfall combines with warm temperatures and high humidity during the growing season to provide ample moisture to encourage the spread of a multitude of fungal diseases in grapes. The most notable grape varieties grown in the southeast have long been the Muscadines (Muscadina rotundifolia), because their thick berry skins and foliage resist many common fungal diseases. Most importantly, this species is resistant to Pierce’s disease (PD), a major bacterial grapevine disease in the southeast.

Fortunately, pioneer growers and winemakers in the southeastern U.S. have paved the path for some alternative winegrape varieties with tremendous potential. This article will cover the white winegrape variety Blanc Du Bois, and a follow-up piece in Wine East will discuss the red variety Lenoir.

Pierce’s disease in the southeast
The PD bacterium (Xylella fastidiosa) is a major problem in the southeast. It has been identified in susceptible grape varieties as far west as Texas, eastward into Georgia and as far north as Virginia. The grape strain of this disease is found in wild grapes that grow in the woods surrounding vineyards and is brought into the vineyard to susceptible cultivated varieties by xylem feeding insects such as sharpshooters. European grape varieties (Vitis vinifera) are highly susceptible to PD. Commercial vineyards growing varieties such as Cabernet Sauvignon, Merlot and Chardonnay have succumbed to this disease within a few years of planting in southeastern states.

The PD bacterium and its vectors favor the mild winter temperatures of the southeast and are hosted by a multitude of wild plants, making the production of V. vinifera varieties a bleak endeavor in this region. Risk maps of the southeastern region have been produced by North Carolina State University (see Pierce’s Disease Risk in the Southeastern United States on page 76) to illustrate areas at high risk for PD such as those areas not historically receiving one to three days of winter temperatures at or below 10°F.

Blanc Du Bois: a Texas triumph
Blanc Du Bois (Blahnk-Du-Bwoh) is a hybrid bunch grape that was crossed in 1968 by John A. Mortensen at the University of Florida’s Central Florida Research and Education Center in Leesburg, Fla. This variety was developed by crossing European V. vinifera selections such as Golden Muscat with native Florida grapes and was officially released by Mortensen in 1987 as a Pierce’s disease-tolerant winegrape for white wine production in the humid southeast. The grape was named in honor of Emile DuBois, an influential grape grower and winemaker in the Tallahassee, Fla., area.
Since the release of Blanc Du Bois, the variety has found its way into commercial production in southeastern states such as Florida, Louisiana and Texas. Currently Texas is leading the industry in production of Blanc Du Bois with more than 150 acres in production in the eastern and southeastern parts of the state (over 30 acres in Austin County alone) and more than 20 commercial wines. Growers in Georgia, Alabama, South Carolina, Arkansas and Mississippi have expressed an increasing interest in Blanc Du Bois because they view the variety as a unique alternative to Muscadines with wine characteristics that are more similar to vinifera.

**Blanc Du Bois in the vineyard**

Blanc Du Bois is a moderate to highly vigorous grape variety that has a procumbent or sprawling growth habit adaptable to either a vertical shoot positioned or a downward sprawling vine-training system. Shoots of Blanc Du Bois contain up to three clusters with an average cluster size of about 0.3 pounds per cluster. Depending on the soil vigor and vine-training system, yields can range from about 3 tons to 8 tons per acre. Blanc Du Bois in Texas is usually grown on vertical shoot positioned, high bi-lateral cordon and Geneva double curtain training systems.

The overwhelming majority of Blanc Du Bois is planted on its own roots. However, it does not perform well on its own roots in calcareous soils. As a result, in Texas it is recommended to graft Blanc Du Bois onto a Pierce’s disease-tolerant rootstock for calcareous soil where soil pH is greater than 7.0 in order to improve vigor and reduce deficiencies of micronutrients such as iron and zinc. Own-rooted vines have been productive for more than 20 years in the Texas Gulf Coast in slightly acidic soils (pH 5.5 to 6.5).

Blanc Du Bois is an early ripening variety, with bud break occurring about mid-March and harvest beginning as early as the first week in July in the central Texas Gulf Coast. Winemakers selectively harvest between 16° and 22° Brix, 6 to 10 grams per liter titratable acidity, and with a pH of 3.2 to 3.5, depending on the wine style desired. The wide range of accepted fruit chemistry allows for a long harvest period that can target several wine styles, or a total harvest early in the range if needed to avoid late-season rots caused by excessive rain near harvest.

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Blanc Du Bois has not been formally investigated. Consequently, states in the northern reaches of the eastern PD-affected area should proceed with caution as temperatures where it currently grows rarely drop to 10°F.

In the Texas Gulf Coast, more than 3 inches of rainfall per month in June through July resulted in complete crop loss of late-season reds in some vineyards in 2007 and 2010, whereas Blanc Du Bois was harvested early with minimal crop loss. Well-drained, sandy loam soils tend to show less rot problems than heavy clay soils, which indicates that appropriate site selection further improves the ability to extend ripening of Blanc Du Bois.

Although Blanc Du Bois tolerates PD, it is still susceptible to a wide range of foliar and fruit diseases in the southeast including anthracnose, black rot, phomopsis and ripe rot. The original release by Mortensen suggested that Blanc Du Bois is resistant to downy mildew, however, infections are well documented during prolonged wet conditions in Texas, albeit less severe than in other varieties.

Remarkably, powdery mildew has never been documented on Blanc Du Bois in Texas. To prevent early season outbreaks of anthracnose, growers have adopted the practice of applying lime sulfur (calcium polysulfide) as a dormant spray just before bud break, followed by a standard fungicide program from bud break to veraison for other foliar and fruit diseases. Blanc Du Bois is tolerant of nematodes if planted on its own roots; however, it is susceptible to Phytophthora root rot, which is a problem on calcareous soil with high clay content found in some areas of Texas and the southwest. The primary insect pest of
Blanc Du Bois is the grape berry moth, which is managed with one or two insecticide applications per season.

It should also be clarified here that although Blanc Du Bois is tolerant of PD, it acts as a host of the bacterium and will show leaf scorch symptoms typical of PD if vines become stressed. Work by the University of Houston-Downtown showed that in regions of high PD pressure, bacterial levels in Blanc Du Bois were low overall, with higher bacterial levels localized on a few shoots. The population of bacteria in Blanc Du Bois appears to decrease over the winter and may be partially removed during dormant pruning. When PD symptoms are expressed by Blanc Du Bois, the symptomatic vines will continue to grow normally the following season, and thus insecticide treatments to prevent PD are not necessary. Because Blanc Du Bois and most other PD-tolerant varieties can act as symptomless hosts of Pierce’s disease, it is not recommended to plant this variety alongside susceptible grape varieties.

Blanc Du Bois in the winery
The driving force behind the increased planting of Blanc Du Bois in the southeast can be credited in part to the improvements in wine quality for this variety in the past decade. Wineries in Florida, Louisiana and Texas have featured Blanc Du Bois as a varietal wine as well as a blending grape since its release in 1987, and local market recognition for the variety has grown over the years. The trend for cooler and longer primary fermentation has resulted in wines described as having heightened aromatics on the nose and a crisp, refreshing citrus to mineral finish on the palate.

In 2009, Dr. Charles Sims at the University of Florida conducted a sensory evaluation of more than 20 Blanc Du Bois wines from commercial wineries in the southeast to determine the varietal’s dominant aroma and flavor profiles. The most common positive aroma and flavor profiles recorded...
included apple, tropical fruit, peach, citrus, lemon, rose and honey. Many winemakers generalize that fruit harvested earlier will have more dominant citrus character, and tropical fruit aromas intensify with greater ripeness. However, further work is still needed to determine a link between flavors and aromatics in fruit at harvest and those in the resulting wines.

Wine styles of Blanc Du Bois have also evolved considerably in the past decade as winemakers are expanding beyond standard dry, off-dry and sweet varietal wines. The trend for off-dry to semi-sweet wines is likely a reflection of the consumer preference in the southeast. The predominant wine style for Blanc Du Bois in Texas is an off-dry to semi-sweet wine with predominant tropical fruit aromas and a crisp citrus finish—although true dry wines are increasing in number.

Raymond Haak, owner and winemaker at Haak Winery in Santa Fe, Texas, has been producing wines from Blanc Du Bois since the 1980s. Haak is the largest producer of Blanc Du Bois wines in Texas and has embraced the diversity of the Blanc Du Bois grape. He produces seven different wines including a dry, semi-sweet, sweet, rosé (blended with red), barrel reserve, white Port and a Madeira-style dessert wine from about 50 tons of fruit per year.

The wide range of Blanc Du Bois wine styles may be limited by the ripeness of fruit in some years. For example, in a year with heavy rain leading into fruit maturity, a grower may need to harvest fruit with low sugar levels and high titratable acidity, which is destined to make a sweet wine in order to balance the acidity. In a dry season with little fruit rot apparent, a grower has the option to make multiple passes through the vineyard to harvest fruit according to the desired wine style. While few commercial wineries are producing sparkling wine from Blanc Du Bois, the potential for its application to early harvested fruit is a topic of discussion for larger wineries.

The future of Blanc Du Bois
The quality and production of Blanc Du Bois wines have improved remarkably in the past decade, with vineyard expansion continuing to grow in Texas and other southeastern states. In 2007, the total acreage of Blanc Du Bois in the Texas Gulf Coast region was approximately 20 acres. The latest

References
In May 2007, the Austin County Grape Grower Committee and AgriLife Extension held the first Blanc Du Bois Symposium in Cat Spring, Texas. Texas growers are very supportive of the expansion of Blanc Du Bois into neighboring states and anticipate that the research efforts in Texas will result in improved quality throughout the southeastern region of the United States.

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