PIWI’S BIG WINE ADVENTURE

Ever try learning German?

Or maybe the better question is: ever fail at the attempt? Perhaps because the language is full of words like Kraftfahrzeughaftpflichtversicherung (third party vehicle insurance), Aufmerksamkeitsdefizit-Hyperaktivitätsstörung (Attention Deficit Hyperactivity Disorder) or Donau-Dampfschifffahrtsgesellschaft (Danube Steamship Company)?

One mouthful that exists only in our fair language is Pilzwiderstandsfähige Rebsorten. Admittedly this term, which translates to fungus-resistant grape varieties, is unwieldy even for Germans, who typically shorten it to PIWI – pronounced pee-vee. Which, coincidentally, is also how Germans pronounce the name of the hero of Tim Burton’s 1985 directorial debut. Remember that one? Pee Wee’s Big Adventure with Paul Reubens, Elisabeth Daily, and Mark Holton? No? Ok, perhaps not Burton’s finest work.

The English term for PIWI is also a lot easier to pronounce than Pilzwiderstandsfähige Rebsorten. It’s simply *hybrid*. Yet if you ask the people who work with them, they’ll say that that term alone isn’t enough, preferring instead to call them pioneer varieties. A bit of explanation might help.

FROM VITIS VINIFERA TO HYBRID

In principle, it’s simple. Countless different grapevines, or Vitaceae, exist on our planet. One species is called Vitis Vinifera. These are the so-called noble vines, from which grape varieties such as Cabernet Sauvignon, Merlot, Chardonnay, Pinot, etc. evolved. Others are described as native vines. These native vines grow in many parts of the world.

Depending on which sub-species is involved, these vines share a significant upside hinted at in the (German) name: a strong resistance to frost, phylloxera or fungi such as downy and powdery mildew. In the late 19th century, as part of the fight against phylloxera in Europe, it was discovered that the European vinifera vines could be grafted onto phylloxera-resistant native rootstock. This was a significantly different approach than had been used to date in the war against powdery and downy mildew.

Those previous solutions traced their origin to the so-called “Bordelaiser Brühe,” or Bordeaux mixture, which was a copper sulphate-based pesticide. In its footsteps, the chemical industry began developing one fungicide after another. To keep fungal infections in check, especially in cool, moist areas such as Germany, vineyards had to be sprayed numerous times over the course of a growing season. Organic-minded vintners can opt only for agents such as copper and sulfur, which affect only the surface of the leaves. Conventional winegrowers use systemic fungicides that penetrate into the foliage.

To reduce the number of necessary treatments, a few different botanists working in the 19th century found ways to create hybrids. Bearing names such as Léon Millot, Ravat blanc, Jacquet, Maréchal Foch and Seyval blanc, the second generation was more successful than the first. So much so in fact that 402,000 hectares of French vineyards were planted with hybrids in 1958, representing more than 30% of all that nation’s land under vine. This was a thorn in the eye for the government, which felt that hybrids did not fit France’s self-image as a Grande Nation of noble vines. In 1979, legislation was passed requiring all such varieties to be ripped out. De facto hybrids disappeared from France soon thereafter.

Fortunately other countries chose to continue their exploration of fungus-resistant hybrids. PIWIs are currently being cultivated in Germany, Austria, Eastern Europe, the U.S., and Canada. Switzerland, like France, long took a conservative approach. That has since changed, however, thanks in no small part to the work of Dr. Pierre Basler and Valentin Blattner, two leading PIWI researchers and growers who hail from Switzerland.

VALENTIN BLATTNER, THE PIWI INNOVATOR

Valentin Blattner originally hails from Basel, but has spent more than 30 years in the remote Jura village of Soyhières. Nobody before him ever thought that the quite cool, wet climate of the town would be suitable for grapes, but he finds it ideal: “Vines that can thrive in our moist microclimate without disease will really do well in most other winegrowing regions.” Among his most successful new crossings are Cabernet Blanc, Pinotin, Satin Noir, and Cabernet Jura. And one especially popular choice appears to be the Souvignier Gris, although that was actually bred in Freiburg, Germany.

The measure of success for a new variety is, of course, ultimately its taste — and the name under which the variety is offered. In principle, it’s not difficult for a breeder to cross various varieties with one another. One simply takes an American native rootstock and then perhaps a scion of frost-resistant Asian native rootstock, crosses them with a vinifera vine, ideally to end up with a product that works both in the vineyard and the glass. This is an over-simplification, of course, and in some cases PIWIs are now serving as the parent variety for new PIWIs.

Creating a new variety that truly stands on its own can be a life’s work. From roughly 30,000 original seeds, perhaps one new variety will emerge at some point 10 – or more typically 15 – years down the road.

And then there’s the question of naming. PIWIs are initially planted in so-called experimental vineyards. At that stage they bear names like FR 493-87 or FR 392-83.

In the past, the art of naming has proven trickier than expected. Varieties such as Maréchal Foch, Chardonel, Angela, Fanny, or Aurora certainly have an odd ring. Why not just call them Paul Reubens, Elisabeth Daily, or Mark Holton? FR 493-87 and FR 392-83 ultimately became Muscaris and Souvignier Gris, which were a bit more comprehensible. And that clearer designation for the variety can also help drive demand. PIWI International, the umbrella organization for many PIWI producers, now counts roughly 550 members in 21 countries. And their ranks are growing.

BUT WHAT EXACTLY ARE PEOPLE NOW DOING WITH PIWIS?

Many, including English journalist Jamie Goode, feel that the grand age of hybrids is just beginning. After all, climate change is poised to make winegrowing more, not less, challenging. EU requirements also impose limits on what can be sprayed.

Winegrowing also needs to become more organic and sustainable, since conventional winegrowing eventually dries out the topmost layer of soil. Winegrowing based around the use of glyphosate and phosphates also requires irrigation— a luxury that viticulture may not be able to afford long-term. Winegrowing is ultimately a luxury product, an indulgence, at least when compared with things planted to meet the world’s daily nutritional needs.

Organic viticulture requires much more spraying, since agents such as sulfur or the much-scorned copper, baking soda, or aluminum are contact agents that wash away with the next rainfall and must then be reapplied. With so many applications required, it becomes hard to justify based on the high labor costs, soil compaction, and increased use of copper, not to mention in some cases the hazards to life and limb from working on steep, slippery hillside vineyards. It’s hard to defend at a logical level. And ostensibly organic systemic agents such as phosphoric acids are not allowed in organic winegrowing in Europe.

Depending on the region, even in the better years “we have to figure on 17 treatments for Pinot Noir and Müller-Thurgau,” says Roland Lenz, who together with his wife Katrin runs the largest organic vineyard in German-speaking Switzerland — and at this point probably the largest PIWI winegrowing estate in the world.

They originally started with Pinot Noir and Müller-Thurgau. Yet the application of 2.5 hectoliters of copper per hectare didn’t fit their vision of organic agriculture. And so, a bit at a time, they began planting PIWIs. They’re up to 30 at present, and 2021 is the first vintage that will feature exclusively PIWI wines. “These varieties develop completely differently in the vineyard,” Lenz says. “Some remain 100% fungus resistant throughout their lives, while others like Regent tend to lose a certain degree of that resistance as they age.” Even so, the protection remains strong enough that the vintners require only baking powder and alumina to combat powdery and downy mildew. It has been many years since they’ve applied sulfur, let alone copper. They are instead working with Blattner and the Borioli Vine Nursery on developing new varieties.

2021 has proven a serious challenge even for hybrids. “In 2019 we didn’t have to spray our Cabernet Blanc even once. We had to do so several times in 2021 and still ended up with an infection,” explains Rainer Schnaitmann, a VDP member from Stuttgart’s Fellbach district. “The remarkable thing about it is how well it recovered.”

Matthias Höfflin, who runs a wine estate in the Kaiserstuhl region of Baden that has been certified organic since 1974, has had similar experiences. “We work with Souvignier Gris, and even it showed fungal stress in 2021. We had to head out five or six times. In other years there’s three, or four at tops. But ultimately the yields have been good.”

While Rainer Schnaitmann enjoys working with his Cabernet Blanc, he remains less than fully convinced by PIWIs. “We planted our Cabernet Blanc in a very good, but extremely steep site that’s very dangerous to drive. I don’t like being out there with my tractor. But the variety is very good. It hangs for a long time, but always retains a pale green, almost herbal character. It works if you’ve got experience, and the first wine we produced as a single variety was well received. I once added up to 10% of it to our Sauvignon Blanc and nobody noticed. It certainly didn’t hurt. But I do need to ask myself: What am I doing with this? And I don’t really have an answer, other than adding it to the basic blends — meaning in a place where varieties aren’t listed on the label. I think that in the long run these kinds of varieties will need to be more strongly pushed on a broad scale, there needs to be enough incentive to drive much more research.”

One key might be concentrating broadly on PIWIs like Wohlgemuth-Schnürr in Rheinhessen have done, as well as Rudolf and son Thomas Niedermayr. Rudolf was among Alto Adige’s earliest organic vintners, and joined the Bioland association back in the 1980s. Thomas took over the estate in 2012, turning the little gem in Eppan into one of the most important hubs of PIWI work. Almost two dozen varieties are planted there. Roughly six are used to produce wine and the rest used for experiments, including the Niedermayrs’ own cross-breeds. Thomas and his pioneers — varieties and wines alike — are a convincing lot. They offer perhaps the broadest example right now of the individual character that can be developed from these varieties.

Of course, their success naturally depends on the idea that the varieties are given as fine a vineyard location as the classical varieties and are tended with the same precise care — minus the spraying, which is largely unnecessary. PIWIs then repay this with another benefit: they are not just much more frost resistant, they also follow a shorter vegetation period. Their cycle begins later so that it is typically not affected by late spring frosts, which are now occurring with increasing frequency.

FINDING THE NICHE

The grand age of PIWIs has only begun to dawn. There just aren’t enough variants yet, and in the red range in particular a great deal of research is still needed. The varieties work best when the precisely matched area of use is found. Examples include “Hinterm Deich Rosé Sekt Brut” from Weingut Montigny, which has vineyards on the Nahe as well as in Schleswig-Holstein, not far from the Baltic. Felicia, the PIWI hybrid used there, has proven especially good as the base wine for sparkling wine.

Sekt is in many ways a promising field for hybrids, since varietal type is often only a minor factor in the base wines. Niko Brandner, who manages Sekthaus Griesel, shares this opinion. To him, it’s 100% clear that these varieties will play an essential role in achieving a truly environmentally conscious model. He bottled his first traditional method Souvignier Gris in 2020, and sees it qualitatively as somewhere between Pinot Blanc and Chardonnay.

In the search for interesting wines, you’ll very often land at skin-fermented expressions. A niche, no question. But for some vintners, PIWI is just the thing. Jan Matthias Klein, who directs Staffelter Hof on the Mosel, one of the world’s oldest estates, is increasingly opting for PIWIs. “They turned out really well in 2021. When it came to the classic varieties, we had at least 50% losses due to Peronospora and black rot. But almost none by the PIWIs.” Next year Klein will have another 1,200 vines of Muscaris and Souvignier Gris, meaning that in the next five years he can plant roughly 5 hectares, and that on fine sites.

Klein has selected gently graded slate slopes in the Kröver Paradies as the primary site for his hybrids. But he also finds selling the varieties to be quite easy. That’s because he’s simply “thrown together” what he’s got and worked with semi-carbonic maceration. For white wine, of course. That works very well because the PIWIs already have a portion of greater resistance built in through their significantly thicker skins. Matthias Höfflin has observed the same thing, finding that an appealing drinkability can be routinely achieved through the perfect balance of tannins, extracts, and mild volatile acids. “Yet in doing so, we always keep our wines clean.”

While lights have emerged along the way, pointing toward tremendous potential, and more and more interesting examples appearing each year, the path forward for PIWIs remains unclear. So we watch; we wait; and we continue to enjoy Niedermayr, Höfflin, Sekts, and a bit from the orange side of the world, perhaps while pondering a Tim Burton retrospective.

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