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Argentina’s INTA Releases a Digital Guide for Wine Producers

The document brings together sensors, drones, satellite imagery and predictive tools tested in wine regions to improve irrigation, crop health and traceability.

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Argentina’s National Institute of Agricultural Technology, known as INTA, has released a guide on digital tools aimed at improving efficiency in wine production and in the management of vineyards and wineries across the country.

The publication brings together technologies that INTA says can help producers and technicians make better decisions in the field and in the winery. The guide covers the use of sensors, drones, satellite imagery, monitoring software and data analysis systems. It also includes tools for predictive analysis and other digital applications that can support irrigation management, crop health control, harvest planning and parts of the winemaking process.

INTA presented the guide on Sunday as part of its broader work to promote innovation and digitalization in Argentina’s agroindustrial sector. The institute said the material is based on experiences and developments tested in different wine-producing regions of the country. Its goal is to make practical information more accessible to growers, advisers and other parts of the wine value chain.

According to the institute, one of the main uses of these technologies is to improve monitoring of vineyards in real time. Remote surveillance systems and field sensors can provide updated information on soil and crop conditions, helping producers respond faster to changes in temperature, water availability or signs of plant stress. Drones and satellite images can add a wider view of vineyard performance and help identify uneven growth, potential disease pressure or irrigation problems before they spread.

The guide also points to digital platforms that can be used to organize and track tasks through the season. These systems can help with planning field work, recording observations, following treatments and keeping production data in one place. INTA specialists say that kind of recordkeeping can support more consistent management and better traceability, an issue that has become increasingly important for wineries selling into both domestic and export markets.

Another part of the material focuses on predictive tools. INTA says data analysis and artificial intelligence can be used to estimate yields, anticipate crop behavior and support decisions linked to harvest timing and winemaking. In a sector where small changes in climate, water use and fruit condition can affect both volume and quality, those tools may help producers reduce uncertainty and use inputs more precisely.

The institute framed the guide as a response to several pressures facing the wine industry. Among them are climate change, the need to improve competitiveness and the ongoing challenge of pests and diseases. Better access to digital tools, INTA said, can help producers adapt by improving efficiency while also supporting more sustainable practices.

Water management is one of the clearest examples. In many wine regions, irrigation decisions are central to both yield and grape quality. Sensors and digital monitoring can help adjust irrigation more accurately, which may reduce water use and avoid unnecessary application. For wine producers, that can have a direct effect on costs, vineyard performance and the consistency of raw material entering the winery.

The guide may also matter beyond vineyard operations because of its possible effect on the broader beverage business. More precise control over grapes, inputs and production records can help wineries improve consistency, quality management and product traceability. That could be especially relevant for wine companies trying to strengthen their position in competitive markets, where buyers often demand clearer documentation and tighter control over production practices.

INTA said the document is intended as a practical reference rather than a purely technical report. By compiling examples already used in Argentine wine regions, the institute appears to be trying to shorten the distance between research and adoption in the field. For smaller and mid-sized producers, access to a single guide may make it easier to understand which digital tools are available and how they can be applied to everyday problems.

The release comes as agricultural producers in many sectors are weighing how far and how fast to invest in digital systems. In viticulture, those decisions often depend on whether technology can deliver measurable gains in productivity, product quality or resource use. INTA’s approach suggests that the institute sees digitalization not as a separate trend but as a practical part of managing vineyards and wineries under tighter economic and environmental constraints.

The institute did not present the technologies as a single solution for every producer. Instead, the guide groups different tools that can be adapted to local conditions and specific production needs. That includes systems for sanitary monitoring of vines, software for operational planning, remote data collection and analysis tools that support decisions from the growing season through harvest and winemaking.

By releasing the guide, INTA is adding to a wider push in Argentine agriculture to expand the use of applied technology in production systems. In the wine sector, where quality, efficiency and sustainability are closely linked, the institute is positioning digital tools as one way to help producers respond to immediate operational challenges while preparing for longer-term shifts in climate and market demands.