SASEV
South African Society for Enology & Viticulture

THE FUTURE OF NOLO

OPPORTUNITIES AND CHALLENGES FOR WINEMAKERS

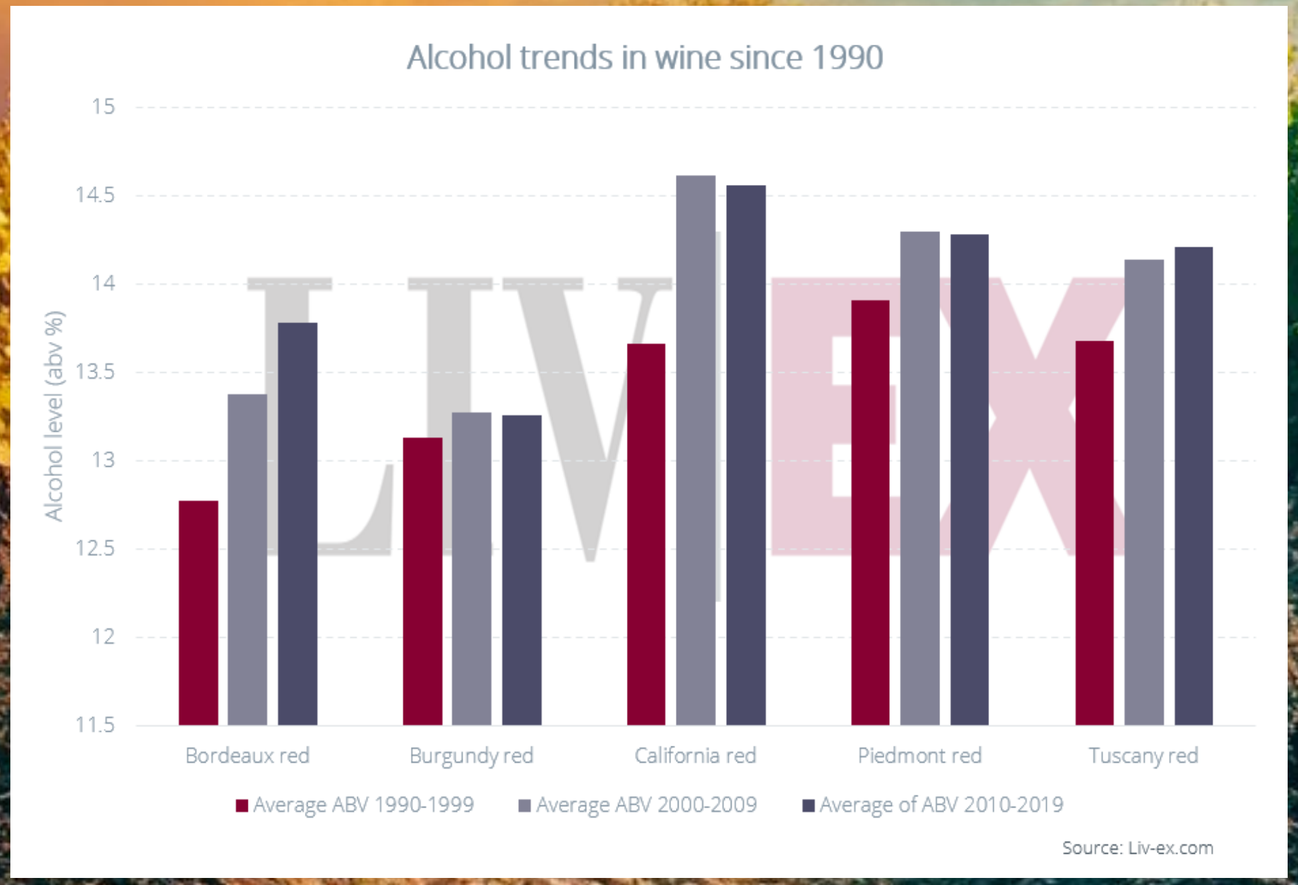
Presentation by Pietro Russo
Consultant winemaker
Master of Wine

Roadmap

- Market and consumer trends
- Definition and legislation
- NoLo production
- Opportunities and threats
- Winemaker’s challenges

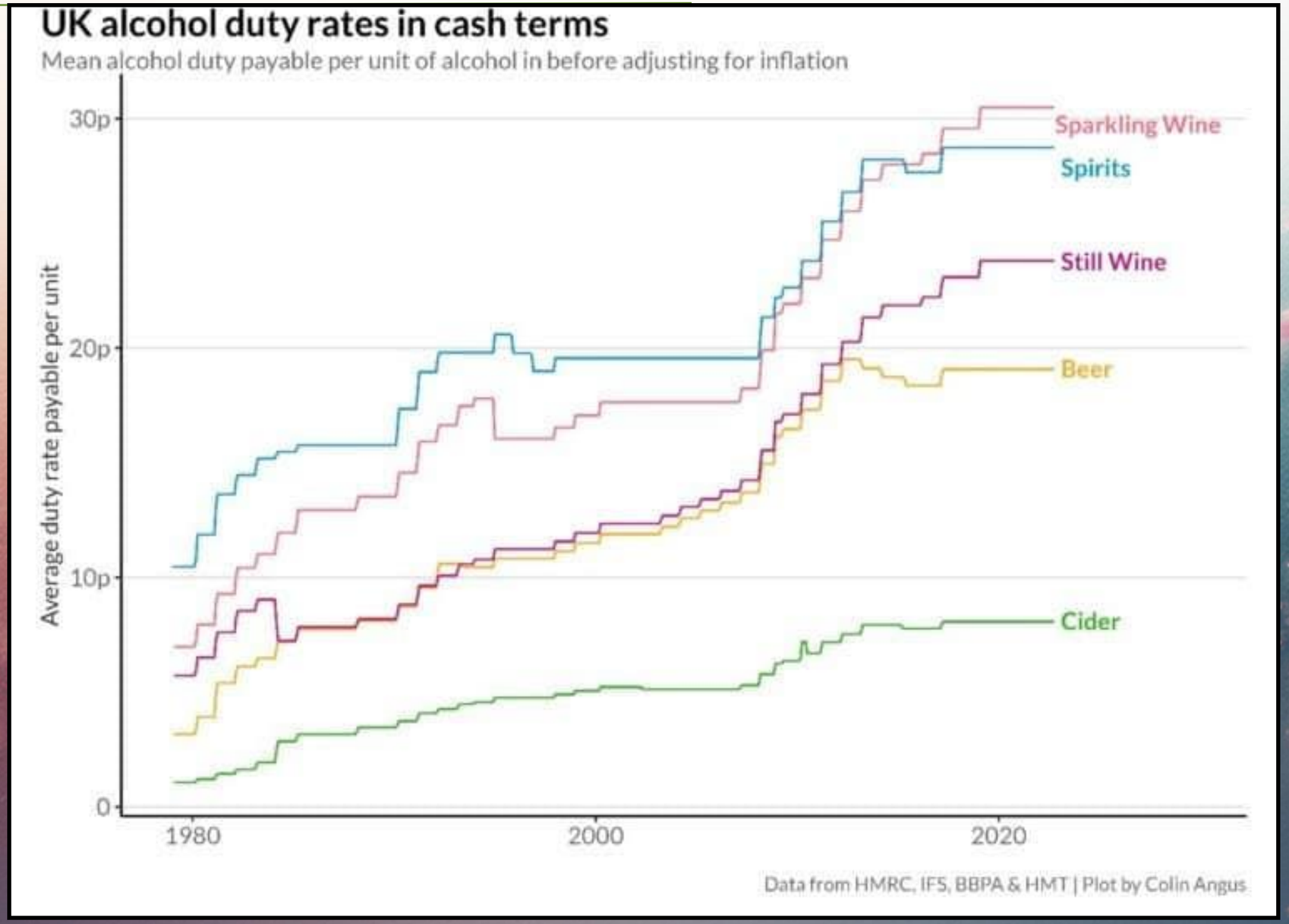
1.MARKET AND CONSUMER TRENDS

Climate changes
Rising alcoholic degrees

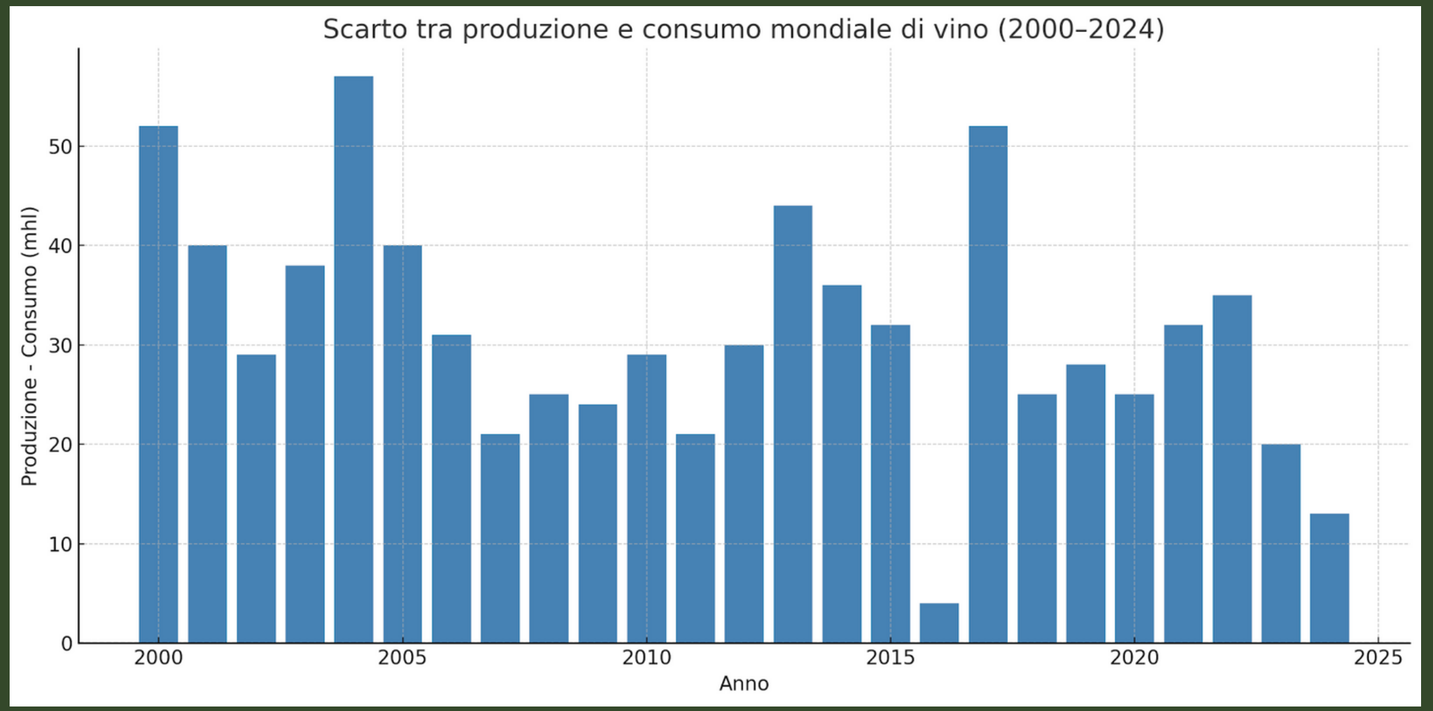


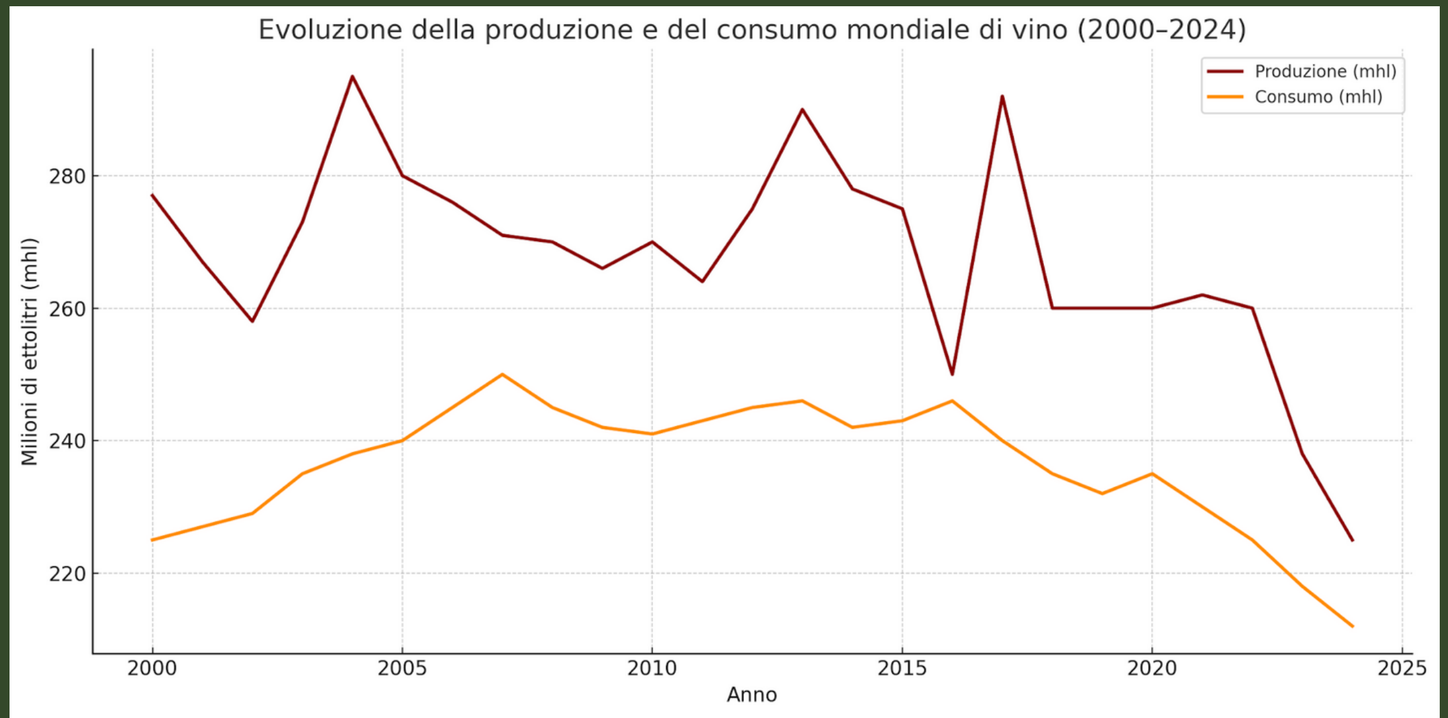
consumer

BEHAVIOUR


UK alcohol duty rates in cash terms
Mean alcohol duty payable per unit of alcohol in before adjusting for inflation
Average duty rate payable per unit
30p
20p
10p
0
1980
2000
2020
Sparkling Wine
Spirits
Still Wine
Beer
Cider
Data from HMRC, IFS, BBPA & HMT | Plot by Colin Angus

GLOBAL WINE PRODUCTION





AND CONSUMPTION

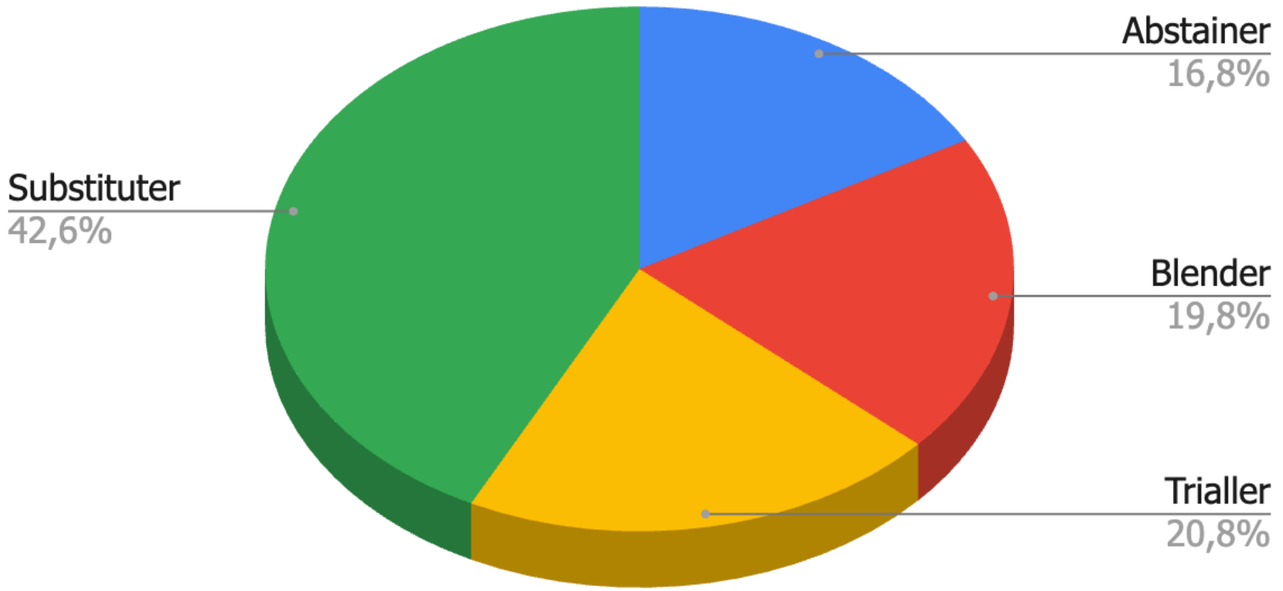
NOLO MARKET (IWSR 2025)

- TOP 10 GLOBAL MARKETS: +13% IN 2024 IN VOLUME
- 2,4 BILLION $ (2024); 1,2% IN TOTAL VOLUME
- CAGR 2024-2028: +7% VOLUME (NO ALCOHOL BEV.), +5% WINE
- US FULL STRENGTH ALCOHOL CAGR 2019-2024: -1% VS NO ALCOHOL +28%
- BRASILE, CANADA, US, UK GROWTH FROM +7 TO +18%

CONSUMERS

GROWTH FACTORS AND BARRIERS

- Brand
- Price
- Availability
- Occasions and Social Media



MODERN CONSUMERS AND EXPECTATIONS

WHAT DO THEY RESEARCH?
MORE NATURAL PRODUCTS:

- LESS SUGARS
- LESS ADDITIVES
- LESS CALORIES
- SUSTAINABLE PRODUCTS

WARNING: NOLO IS A TRUE ANSWER?

2. DEFINITION AND LEGISLATION

A CREATIVE TREND, CARRYING A LOT OF CONFUSION:

- DEALCOHOLISED WINES
- DEALCOHOLISED WINE-BASED BEVERAGES
- GRAPE MUST BASED-BEVERAGES
- NEW DEVELOPMENTS WITHIN THE EU...

OIV DIRECTIVES: DEALCOHOLISED WINE <0,5% , ONLY THROUGH FISICAL METHODS
OTHER COUNTRIES: US (0,05%), JAPAN (1%), DRY MARKETS

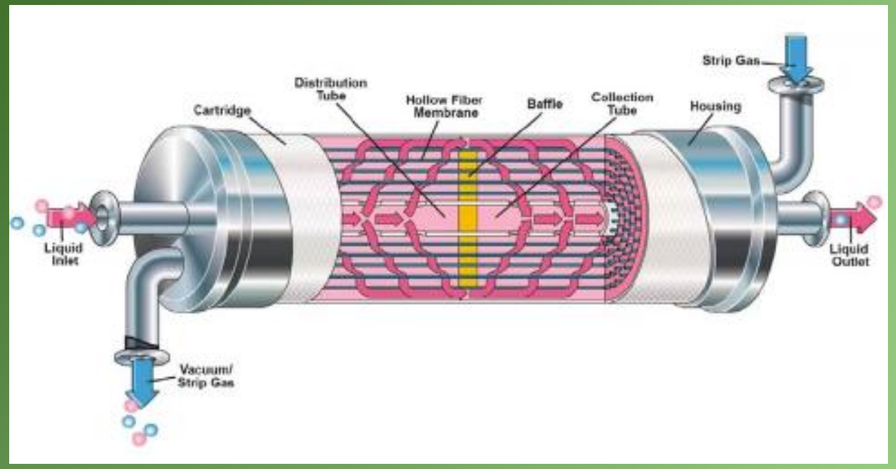
3. NOLO PRODUCTION

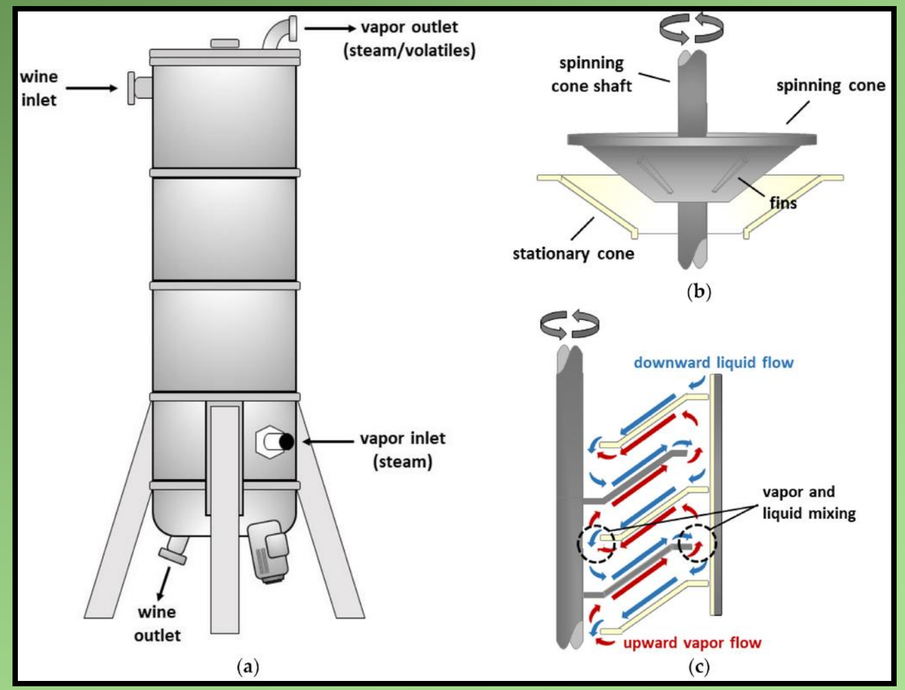
PHYSICAL TECHNOLOGIES FOR ALCOHOL REMOVAL

- REVERSE OSMOSIS + MEMBRANE TECHNOLOGIES OR DISTILLATION

- VACUUM DISTILLATION
  - SPINNING CONE COLUMNS (SCC)
  - LOW TEMPERATURE VACUUM-DISTILLATION (GOLO, CLEARALC,..)

- PERVAPORATION





4. NOLO THREATS

HOW CAN WE ADDRESS THE CONTRADICTIONS SURROUNDING NOLO PRODUCTION AND MARKETING?

- **ENVIRONMENTAL SUSTAINABILITY**
- **PRODUCTION COSTS**
- **CONSUMER NEEDS**
- **TECHNIQUES AND QUALITY**

US TECHNICIANS NEED TO LOOK FOR SOLUTIONS

SUSTAINABILITY

e

DEALCOHOLISATION PROCESS CAN BE EXTREMELY ENERGY-DEMANDING:

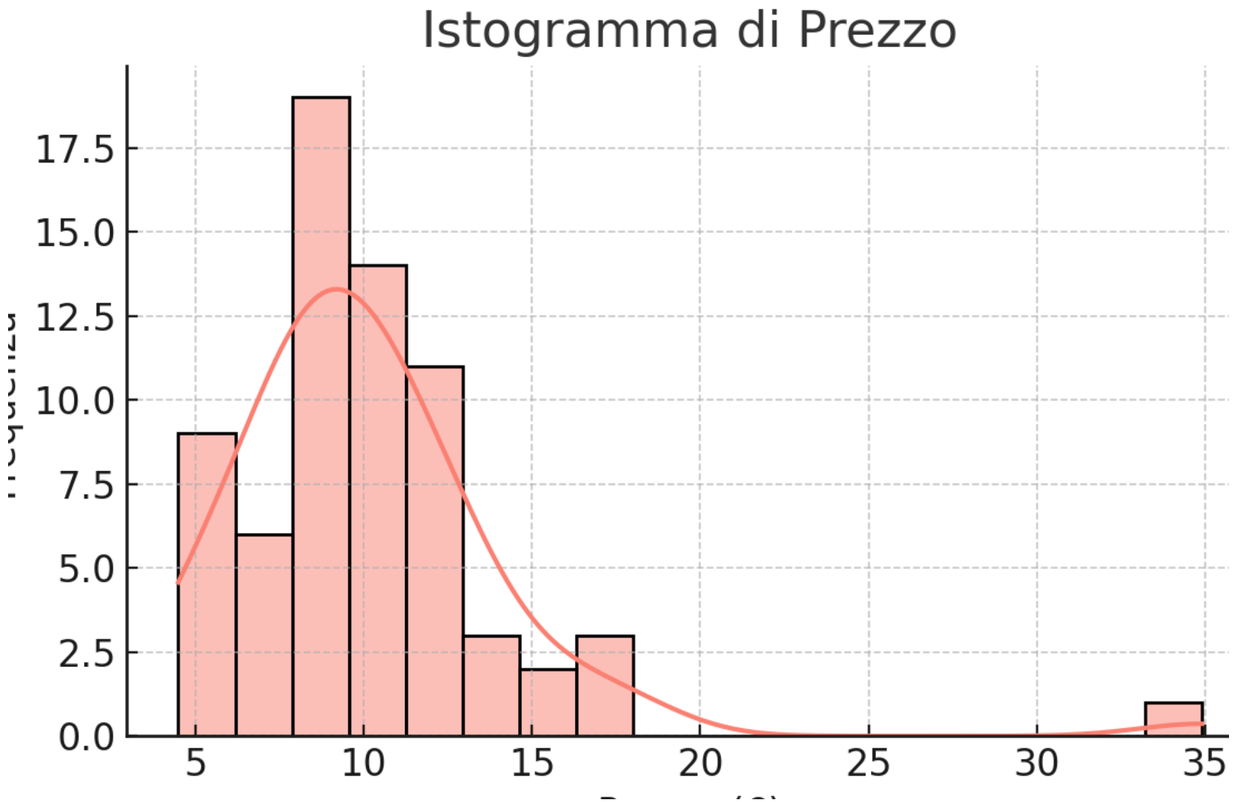
-SOLAR PANELS

-HIGH-PERFORMANCE PLANTS

-HEAT PUMPS VS WATER HEATERS

-WATER USE

COST MANAGEMENT
and price position



- BASE WINE TRANSFORMATION
- TRANSPORT TO/FROM PLANT
- TREATMENT
- VOLUME LOSS
- FINAL ADJUSTMENTS
- MARKETING + SALES
- TARIFS AT DESTINATION

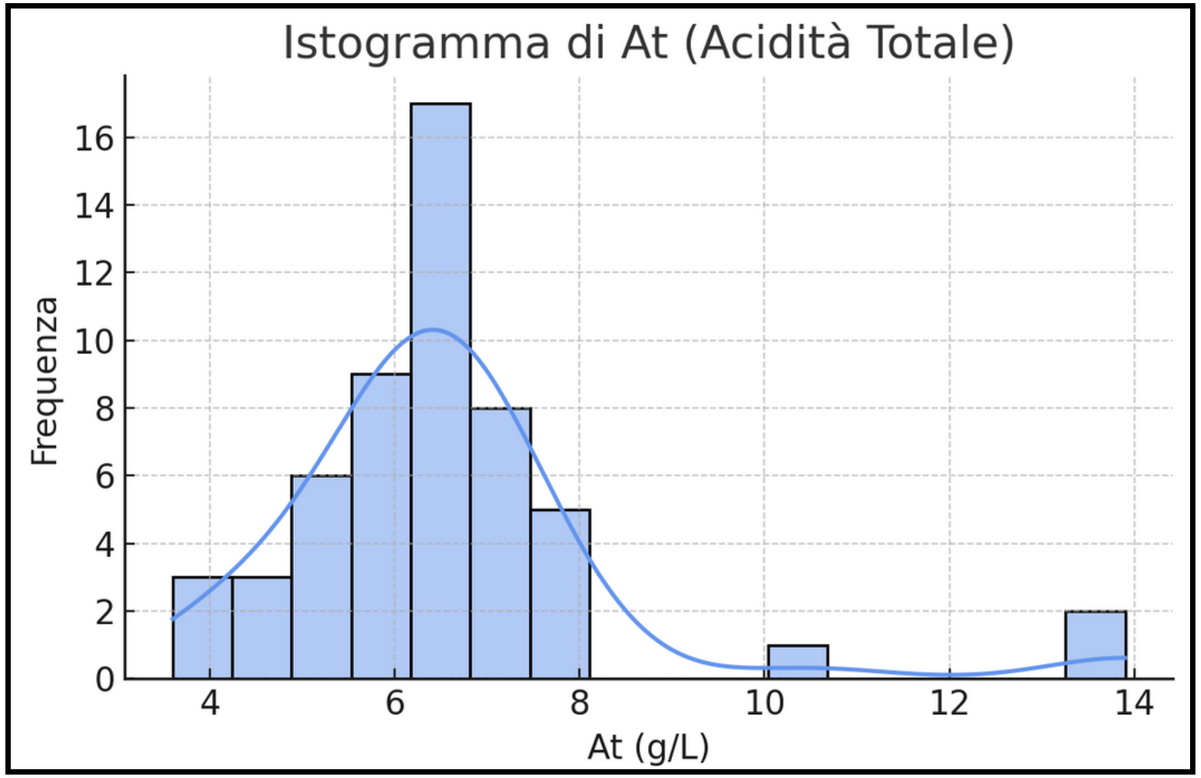
NOLO and quality

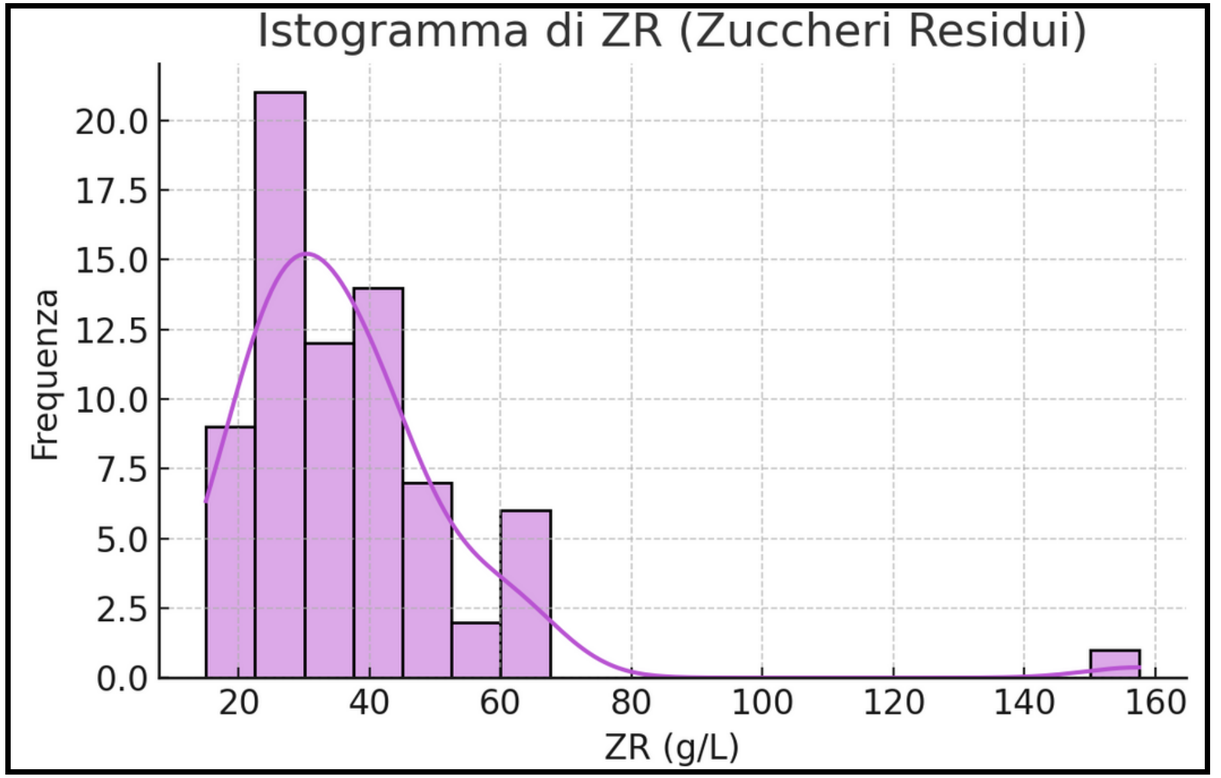
Role of alcohol and the technical challenges:

- **Body and texture**
- **Acidity and balance**
- **Microbial and aromatic stability**
- **Sensorial identity**

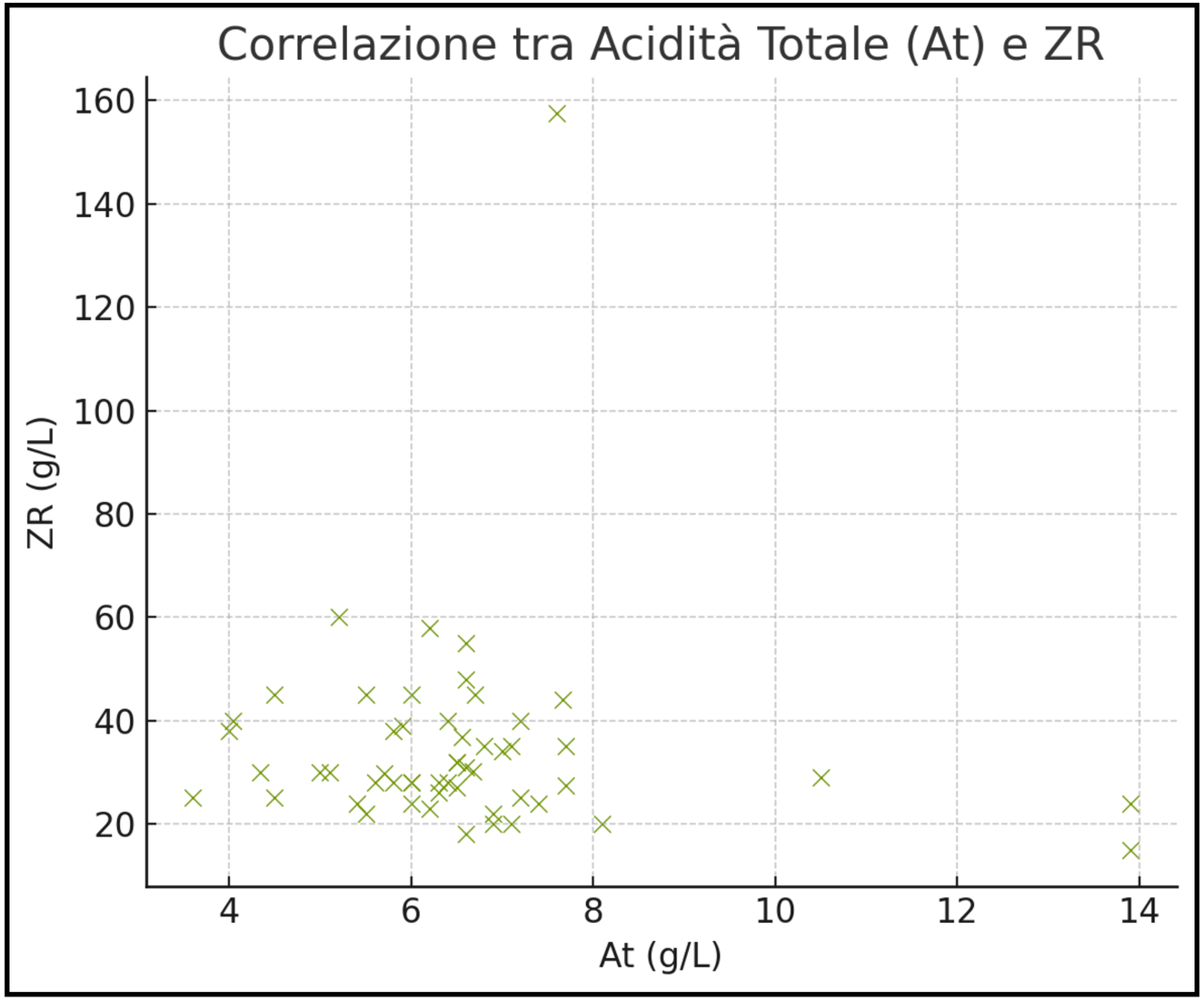
MEININGER MUNDUS VINI 2025

«NO ALCOHOL WHITE WINES»





IN THE SCATTER PLOT BETWEEN TOTAL ACIDITY AND RESIDUAL SUGAR, THE VISUAL CORRELATION APPEARS WEAK OR ABSENT, SUGGESTING THAT THE TWO VARIABLES BEHAVE INDEPENDENTLY.



5. WINEMAKER CHALLENGES

WHEN TO INTERVENE?




PRE-DEALCOHOLIZATION STEPS

Vineyard

Choice of trellis system and management

Genetic material

Picking time and yields

Winery

Alcoholic/malolactic fermentation

Pre-fermentation

Ageing and stabilisation

KEY PARAMETERS TO MONITOR

Tecnology	Flow (L/h)	Temperature (°C)	Operating Pressure (bar)	Column number	Alcohol concentration output (%vol/vol)	Total volume loss (%)
SCC	2.200 (1L/3-5 sec)	48-50	-8	2	40	26%
GoLo	3.000 (2L/sec)	42	-9,6	3	84	15%

RESULTS ARE DRAMATICALLY DIFFERENT (pH, acidity, colour, SO2, aromas) AND NEED DIFFERENT CONSIDERATIONS!

POST DEALCOHOLISATION STEPS

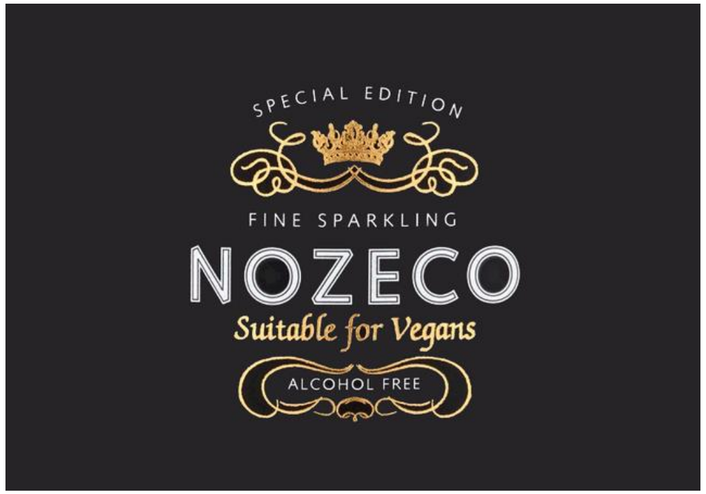
FINE TUNING THROUGH PRECISION WINEMAKING:

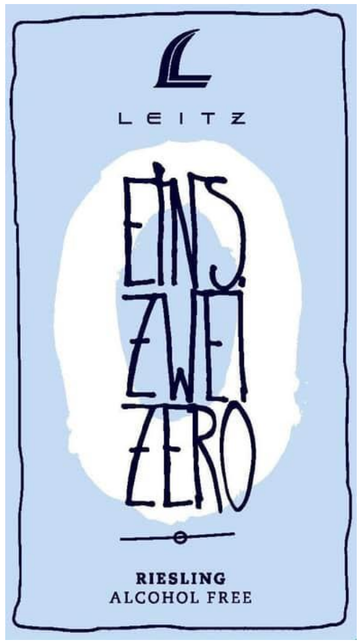
- TASTE BALANCE (at, zr, mp, ps, tannins, ag, co2, glycerol?)
- OXIDATION (inert gases, antioxidants classic or not)
- MICROBIAL SPOILAGE (so2, DMDC, sorbate)
- COLOR STABILITY (tannins, ag,...)
- AROMATIC IDENTITY (recuperation, blending, tannins, ...)

NOLO success stories

moderato

FRENCH BLOOM





ZERONIMO

NATUREO

7. CONCLUSIONS

- NOLOS WINES ARE MEANT TO GROW!
- TRYING TO SOLVE THE CONTRADICTIONS WITHIN THE CATEGORY IS A CONDITIO SINE QUA NON.
- NEW R&D SOLUTIONS: < PRESSURE, RECTIFICATION COLUMS, RESIN TREATMENTS, GASIFICATION AND BOTTLING.
- FINAL ADJUSTMENTS, THE NEW ERA OF PRECISION WINEMAKING.
- IMPROVEMENTS IN QUALITY ARE EVIDENT, BUT NEED FOR COMPETENCES.

IF NOLO, LET'S THINK OUT OF THE BOX!


thank
you