



Health space in vine spa in the world

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Abstract. This elaboration presents vine spa precious contribution of social development health and wellbeing in culture of wine regions. The majority of the vine-spas in the world draw raw materials from the vineyard; both for cosmetics treatments and for dishes in their restaurants. *Vitis vinifera* vine provides fresh grapes for dishes and massages, seeds and oil from the seeds, as well as the leaves, and its extracts, and above all the wine. Wines from region of the spa, become cultural ambassadors of the *terroir* and appelations. From the vine comes a whole range of cosmetics such as scrubs, creams, and masks like a prolugation of skin treatments. Also its concentrated polyphenols (proanthocyanidins, resveratrol, viniferin) is used in treatments, although not every vine spa can boast its own production of them. The most common clients of vine spas are women 30 - 50 age around. Moste often is three-step sequence of mostly hour-and-a-half treatments designed to cleanse the skin with exfoliation, improve microcirculation, relax muscles and apply polyphenols. Vine spa provides and protects a space of intense health experiences for silence, moving, education and deep mental healing practices.

1. Vine spa in the word

There are about 2000 vine spas around the world. Vine spa are wellness centers that incorporate Vitis vinifera based products in face and body treatments using professional cosmetics. The first vine spa was established in 1999 in France, in the Bordeaux Château Smith Haut Lafitte. After publications of American Cosmetic Ingredient Expert Panel, both documents from 2012 [1,2] more vine spa appeard in France, Italy, Spain, Hungary, Austria, England, Poland and also North America: California, Arizona, Mexico, South Africa and Japan. Some spa treatments needs professional lines of cosmetics with V.finifera active substances. First to produce them was Caudalie in 1995 using proanthocyanidins, resveratrol and viniferin as active substances. Today vine spa use Duaner laboratorios, BrunoVassari Kianty experience, Theravine Stellenbosch, Viniderm, Apivita, Bielenda red wine, Organique, FarmStay, Josh Rosebrook, Die Nikolai, Panier des Sens, Korres. According to the FDA's Voluntary Cosmetic Registration Program (VCRP) in 2014, V. vinifera seed extract in was already used in 495 cosmetic formulations. V. vinifera fruit extract was used in 238 cosmetic formulations. V. vinifera leaf extract was reported to be used in 80 cosmetic formulations. The remaining V. vinifera-derived ingredients were used in fewer than 15 cosmetic formulations [3]. V. vinifera are still not enough valued in the cosmetic industry [4] even modern phytocosmetology is an extremely prominent field and there is an increasing demand for natural cosmetics.

According to the CosIng (Cosmetic Ingredients) database, there are nine forms of raw materials obtained from V. vinifera that can be used in cosmetics. Grape extracts can be used as emollients, humectants, emulsifiers, colour additives or fragrances. Sometimes, V. vinifera seeds are recommended as a colouring agent, humectant or hair- and skin-conditioning agent [5]. Cosmetics based on V. vinifera are mild and have no skin-irritating properties.nd raisins [6]. The phytochemical composition of V. vinifera determines the antioxidant, antibacterial and antiinflammatory activities and the cardioprotective, neuroprotective and hepatoprotective properties. The cosmetics formulations containing the ingredients from V. vinifera could be applied to the eye area or mucous membranes and could also accidentally be ingested. Majority of V. vinifera extracts from different parts of the plant (fruit, leaf and seed), as well as V. vinifera juice and V. vinifera fruit water extracts presented in the cosmetics, could possibly be inhaled [3]. Vine spa treatmens apply scientific proven antioxidant. skin-whitening. antiinflammatory. anti-ageing and UV-protection activities of the plant. Despite that V. vinifera, it is not mentioned in any pharmacopeia. However, there are monographs with a positive opinion provided by respected organisations such as the EMA, the FDA and the EFSA [7,8,9]. European reglulation from 2003 on cosmetic products, defines in art 2 cosmetic product as something intended for external application to cleanse, beautify, or protect the skin, and limits its functions to care, without

attributing medicinal properties. Some borderline cosmetics may be considered a medicine and require then appropriate authorizations [10]. Due to European legal regulations Vitistherapy new term is proposed instead wine therapy or oenotheapy (only for wine) with respect *Vinothérapie* like french mark wich create terms vinoterapia in Italy and Spain by translations. All of them present in literature of subject. Ampelotherapy as grape diet or the therapeutic use of grapes could be use also for grape diet. [11-13].

Vine spas very often have restaurant and wine bar with sommellier and they serve wines with extreme attention for consuming responsibly with moderation, in a convivial environment and in the context of a mediterranean diet, like an element of a healthy lifestyle also with kids [14-17]. Some sommelliers are responsabile also for mineral waters or aromatic oils for massagge treatements.

Health benefits of moderate wine consumption have been studied during the past decades. Despite 9000 years of story of wine, and french paradox study, we still haven't clear instructions for medicines and patients. For sure it is suggested that the physician and patient should discuss alcohol using apps (epop in Poland). Even consuption of wine is still discussing, a bottle of wine like a gift is still in high position as product of culture and the moste complex representation of region [18]. Behind the cosmetics and wines of the spa there are their extremely interesting history taken home. They become cultural ambassadors of the wine regions. It is common know that eating is not only a way to satisfy our needs for nutrients and energy; it is also a way to connect with others, in a social and cultural manner. Vine spa restaurants seems perfect and natural place for practice and educate mediteranean diet (MD) [19] and correct personal relationship with food "food well-being (FWB)", defined as a positive psychological, physical, emotional and social relationship with food at both the individual and societal levels, especially since they are located in wine regions [20]. The Mediterranean diet (MD) from november 2010 in Intangible Cultural Heritage of Humanity in UNESCO list is one of the most healthful dietary patterns, beneficial for humans and the environment. The last two decades research shows that antioxidants from grapes and wine are for prevent, not therapy of cancer because of mechanism of nuclear factor erythroid 2-related factor 2 (NRF2), the master regulator of endogenous antioxidant enzymes.

1.1. Participation of woman in wine company

We observe increasing partecipation of women in wine company and maybe some functional changes of wine regions follows main feminin characteristic like empaty, communication and multitasking capacities. For exemple wine company are more open for arts as more empatic and deeeper communication processes. Even art therapy is one of modality in spa and in wellness evidence portal has access of scientific articles. In 2023 trend was definited as Wellness and senses: Multisensory integration and in 2024 A New Multisensory - Immersive Art for Wellness. Its not about emancipation, but back to origins when women take care of fermentation in neolitic sediment revolution. A lot of women asociations work for their wine regions all over the world [23-29]. One of them could be vine spas resort. The majority of the vine-spas are placed in wine regions in the world and draw raw materials from the vineyard. Grapes destinated for massage with fresh fruits come from biological cultivation [30].

1.2. Covid-19 and vine spa

In all spas, the COVID-19 pandemic in 2020 has led to long-term changes (customers are served in masks, catering prefers open-air consumption, such as open flame cooking). Some vine spas, including Yunessum in Japan, have suspended operations until now. We observe global rise in wellness tourism and after COVID-19 we find optimal opportunity to put new standards in vine spas, which fit into this trend by combining relaxation, beauty, and health benefits, particularly in wine-producing regions. Both the International Spa Association and the European Spa Foundation, established in 2011, are shaping modern spa trends. Vine spas are located in wine regions.

2. Health Trends and opportunities in Vine spas

American Global Wellness Institute publishes annually trends, The Global Wellness Economy Country Ranking and very useful for preparing new services or educative materials: Wellness Evidence portal [31] with Medical Evidences for Wellness Approaches. Between many, there are aromatherapy, balneoterapy, forest bath, meditation, optimism, sauna, tai chi. No ampeloterapy, no wineterapy or even discussion aspects of them. While many investments appear as wellness spaces in cities, sensory gardens, and even in botanical gardens as multisensorial arts events. Some of aspects of wellness trends had place in pharmacy care competences in pharmacy. For example smoking cessation. Today all vine spa are non-smoking rooms. Wellness trends for 2023 was loos wight, and in 2024 is for the first time A Wellness Check for Weight Loss Drugs. If in the future governments organizations should cooperate with the wellness industry and even consider officially financing it. According to an expert from the Global Wellness Institute, well-being policy can help reduce health care expenses. Vine spas can create personalized wellness programs: Vine spas can develop personalized treatments that address individual health needs, such as targeting skin conditions, improving circulation, or reducing stress. Vine spas can integrate nutrition with spa experiences: Some vine spas offer dietary programs that complement their treatments, focusing on the internal benefits of grapes and wine consumption, such as heart health and antioxidant intake. Vine spas can offer holistic health packages: Vine spas may expand their services to include holistic health offerings, such as yoga, mindfulness, and fitness programs, creating comprehensive wellness packages of deeper, long-term health benefits for tourists [32].

2.1. Vineyard benefits

Vineyards are beautyfull space of regular landscape in with high quality and carefully controlled cultivation already gives physical, mental, emotional, social benefits. Some of regions are in Unesco Heritage [33]. Silence and time without electronics devices like a profilactic digital dementia atrophy is still not enough valuated. Vineyards provide space for movement activities like bicycle, yoga, tai chi, shakti, biodance and meditation. Vine wood is used to make small pieces of tableware and even chairs and tables. All thees create full immertion experience and could be devoleped and standarised in terms of health.

2.2. Wellness cosmetic treatment benefits

From the vine comes a whole range of cosmetics such as scrubs, creams, and masks or even perfumes. Also its concentrated polyphenols (proanthocyanidins, resveratrol, viniferin) is used in treatments. During at least a half-day stay, vine spas offer body and facial treatments especially recommended for mature skin but also as relaxation for all ages. In practice around the world, the most common clients of vine spas are women who age around 30 and 50 years of age. Body treatments are divided into wet and dry types and could be made in single or in duet. Face or body treatments represents in 2-3 steps rituals with refers to enology designed to cleanse the skin, improve microcirculation, relax muscles and apply polyphenols. Caudalie is enologic term for mesure pleasure of wine in mouth in sekonds. The erotic world of Bacchus watches over the "for two" treatments that all vine spas in the world offer. Because of this symbolism, vine spa became often wedding scene. The rejuvenating, whitening (by tyrosinase inhibitory activity), brightening, anti-cellulite treatment should be repeated a dozen times to have visible effect but can be prolonged by exercises, and cosmetics

3. Case Studies: Prominent Vine Spas Around the World

3.1. Europe

France: Les Sources de Caudalie (Bordeaux) [34]. A pioneer and creator vinothérapy®. This spa incorporates the region's wine heritage into its treatments. Vine spa illustrates the culture du vin of the Bordeaux region by producing cosmetics from varieties, which are traditionally found there: merlot and cabernet sauvignon. It uses the scent of roses, which were traditionally planted at the ends of rows of dense vineyards. The large round stones in the vineyard accumulate heat and give it back at night, hence the hot stone massage is as if taken from a vineyard of the cabernet sauvignon variety which needs this phenomenon to mature. More recently, this vine spa has been taking advantage of the resources of the forests growing around the vineyard, providing a forest therapy known as bain de forêt. Caudalíe offers full-day rituals, half-day rituals or treatments lasting from two to six days. It's worth mentioning that the wine bar is located in the spa bears the all familiar name French Paradox and the restaurant La Grand Vigne received Michaelina stars in 2010 and 2015. Additionally, Caudalie owns other locations near Paris, in Italy, in San Maurizio,in Spain's Rioja region - in Marquis de Réscal, in California and in New York. Located 15 km from Paris, Les Etangs de Corot, offers both wet and dry vinotherapy treatments: red wine baths, grape baths, slimming wrap treatments, Pulp Friction - fresh grape massage, honey and wine wraps, refreshing Vichy shower massage, Merlot wrap, Shiatsu cabernet massage. Spa treatments include a variety of grape and vine masks to cleanse, stimulate, and brighten the skin. Rituals for two include Dui Divin (Divine Duet) and Sarments Amoureux (Twigs in Love). Guests are served an infusion of red vine leaves, also sold as a tea in sachets.

Italy: Tuscany's Vinotherapy Spa. Renowned for combining luxurious spa treatments with the Tuscan wine experience. Adler Thermae Hotel & Spa in Bagno Vignoni between Montepulciano and Montalcino in Tuscany is an elegant hotel ondulating in the hills of Tuscany offering irresistible menus in an idyllic setting, great food and wine and comprehensive spa services that provide a spectrum of experiences, from Ayurvedic treatments to thermal water rituals. Two couples' treatments also offer the opportunity to sample fine Tuscan wines. The Bacchus ritual includes a Vino Nobile bath with Montepulciano wine and grape seed scrub, full body massage and wine tasting. The Wine Experience ritual includes a Brunello full-body scrub, wine massage and wine tasting at the winery. The Natural Experience ritual is an anti-aging facial treatment with Sangiovese, Milk&Honey scrub, Brunello Body Scrub, olive oil massage.

Spain: Marques de Riscal (Rioja). A luxury spa nestled in one of Spain's oldest winemaking regions In the region of La Rioja, not far from Bilbao, there is a vine spa recognised in 2009 as the Number One Spa in the World. Hotel Marques de Risqual, Perhaps the most eloquent of all vine spa facilities in the world, it was designed by the American architect with Polish roots, Frank O. Gehry, and refers not only innovatively to the shape of the grape, but also to the fantasy of light within it! The spacious cedar and teak treatment rooms offer just this play of light. The vinotherapy uses Caudalie cosmetics, but enriches the offer with treatments of the regional Tempranillo variety. Guests enjoy the heated indoor swimming pool, whirlpool, barrel bath, steam room, Jacuzzi, fitness centre and foot bath, pediluvium. They traditionally relax sipping a cup of herbal infusion with red vine leaves and meditate on the orderly, tranquil vineyard bearing fruit each year located in front of the spa windows.

Abadia Retuerta LeDomaine medieval 12th-century Spanish post-convent. The buildings of Abadia Retuerta LeDomaine were desacralized in the 19th century and transformed by the Novartis group into the luxury spa El Santuario. The original refectory with its Gothic vaults and frescoes has been preserved, along with a secret wine cellar and a restaurant. awarded with Michelin stars. Here unique concept of a 'spa sommelier-wine therapist' who, in conversation with each guest, selects not only wines but aromatic oils and ingredients for wine therapy treatments based mainly on Tempranillo varieties. In the

Austria: Loisium Wine & Spa Resort is located in the Kamptal Valley region of southern Austria near the town of Langenlois, just 90km from Vienna. It was designed by Steven Holl (b. 1947r) named the best American architect by Time magazine in 2001, with the rationale that his "buildings satisfy both the spirit and the eye." The positive influence of architecture on the peace of mind and the tranquility of the vineyards are a general requirement of vine spa resorts. The premise consists of two cubic buildings facing each other, surrounded by rows of vines among which loungers are placed. The interiors, also designed by Holl, are very spacious, housing 82 suites in a minimalist and geometric syle. The local loess soils and climate tempered by the presence of the Kamptal River are conducive to wine growing. Wine therapy treatments - wet and dry - use vetliner and riesling varieties from local producers. A treatment called Geniuss Salt Glow includes a salt scrub and a nourishing, moisturizing massage. For the face, brightening treatments are recommended. A special facial massage using high-quality products is designed to remove skin discoloration. It also reduces puffiness and dark circles under the eyes. A cooling and revitalizing mask has a relaxing effect on the sensitive areas of the face around the eyes. After the treatments, the sommelier can advise a glass of Geniuss wine from Weingut Steininger. The five-star hotel has an extensive wine cellar. Guests can learn the secrets of wine production, and the restaurant offers an interesting menu. It uses a thousand square meters of space, which includes a fitness center, a heated outdoor swimming pool, saunas, infrared cabins, and a steam room with amethyst brine.

3.2. North America

United States: Napa Valley, California - Famed for its combination of premium wine experiences and wellness, with many spa resorts offering wine-infused treatments. Kenwood Inn & Spa capitalize on the region's fame in many ways. The landscape abounds with century-old oak trees and shady trails that are perfect for biking and horseback riding. The area became known as Moon Valley thanks to Jack London, who lived and worked here, the author of a novel named in that title was published in 1913. Kenwood offers massages with sauvignon grapeseed oil and aromatic oils, as well as wine baths lasting more than an hour. The Honey Wine Wrap, Crushed Cabernet Scrub, and Lavender Salt Scrub treatments are expected to return when they reopen after the COVID-19 pandemic, and given the effects of the dramatic 2020 Glass Fire, the economic difficulties could be significant for both reasons.

3.3. Other regions

Vine spas in wine-growing areas of Argentina, Chile, Australia, and South Africa blend "New World" wine culture with luxury spa treatments. The Vines Resort and Spa in Mendoza is located in the heart of 600 hectares of vineyards in the Uco Valley. Visitors to the winery can enjoy the silence, walkings, sunrises and sunsets. Yoga is offered as a movement and relaxation activity, which requires skill, fitness and focus. The estate also offers participation in the production of one's own wine - here anyone can also produce it remotely thanks to the ownership of 0.4 to 40 hectares of professionally managed private vineyard. Kingsford Homestead is a family estate, dating back to 1856, located a short distance from South Australia's acclaimed vineyards in the Barossa Valley. It covers an area of 90 hectares, which also serves as a sheep station. It allows you to immerse yourself in the captivating Australian landscape while enjoying picnics, balloon flights over the vineyards or taking advantage of the local specialty, the Grown Alchemist outdoor salt bath, on a terrace surrounded by eucalyptus trees over the babbling Para River while tasting Barossa wines with cheese snacks. The Alfresco Bath Experience, meanwhile, is a nightly retro bath in a secluded vineyard accompanied by sparkling wine. Vine spa Yunessun is located in Kanagawa Prefecture. It was meant to be inspired by the ancient world of the Aegean Sea, gods and Mediterranean charming coves. It also refers to the Japanese tradition of onsen hot springs - the facility is built on 23 geysers, the water from which directly feeds the pools. Thanks to them, the resort offers baths in coffee, green tea, sake and, of interest to us, a wine bath, otherwise known here as "rejuvenating hot water", (oyu o wakagaera seru) with a light grape color and mild fragrance. From time to time, a portion of fresh wine is added to the pool in a ceremonial manner. The main purpose of wine therapy is to help deliver the ideal Japanese complexion - bright and smooth as a hard-boiled egg (yu de tamago). Thus, it is not surprising that they combine light, first wine with the tradition of thermal waters.

4. Perspective

Vine spas are very important places for wine economic regions, enoturistic destination, food-wine education and health space. Many of them are placed directly in vineyard with high rispect terroir principles and express the character of the region. Because of terroir diversity (different variety, local traditions) vine spas all over the world seems not to be in competition each other. Even in same mark need to diversify offer in case to make chain around the world (Caudalie boutique in different countries in the world). The wine industry has significant environmental impacts, and vine spas must consider sustainability in their practices. Vine spas face competition from medical spas and sanatorium that offer treatments with more established health benefits such as medically supervised wellness services. Many vine spa treatments are viewed as luxury of rich wine lovers and could operate in clubs. Vine spas are often located in remote wine regions and are expensive, limiting access to a more exclusive clientele, which could restrict the broader health impact they might have. Vine spa for now is for preventions, and have ready space for all welness trends. Probably new personel is needed and new competence for achive wellness trends with their clients like anti-aging massagist, cosmetologist, health coach.

With the increasing popularity of wellness tourism, vine spas have the potential to grow, especially if they focus more on scientifically validated health benefits. Future vine spas may combine eco-friendly practices with healthfocused services, positioning themselves as leaders in sustainable wellness tourism. More studies are needed to explore the long-term health effects of vine-based treatments, particularly in skin health, stress reduction, economy of wine regions and overall wellness. Vine spas have precious contribution of social development health and wellbeing in culture of wine regions.

5. References

- 1. Vitis Vinifera (Grape) Ingredients as Used in Cosmetics Cosmetic Ingredients Review 17.02.2012 (https://www.cirsafety.org/sites/default/files/vitis022012SLR_for %20posting.pdf)
- Safety Assessment of Vitis Vinifera (Grape)-Derived and Ingredients as Used in Cosmetics Cosmetics Cosmetic Ingredients Review 05.10.2012 (https://www.cirsafety.org/sites/default/files/vitis092012rep.pdf)
- Fiume MM, Bergfeld WF, Belsito DV, Hill RA, Klaassen CD, Liebler DC, Marks JG Jr, Shank RC, Slaga TJ, Snyder PW, Andersen FA. Safety assessment of Vitis vinifera (grape)-derived ingredients as used in cosmetics. Int J Toxicol. 2014 Sep-Oct;33(3 Suppl):48S-83S.
- Sharafan M, Malinowska MA, Ekiert H, Kwaśniak B, Sikora E, Szopa A. Vitis vinifera (Vine Grape) as a Valuable Cosmetic Raw Material. Pharmaceutics. 2023 Apr 29;15(5):1372.
- 5. Cosmetic Ingredient Database (CosIng). Available online: www.ec.europa.eu (accessed on 20 may 2024).
- Singh CK, Liu X, Ahmad N. Resveratrol, in its natural combination in whole grape, for health promotion and disease management. Ann N Y Acad Sci. 2015 Aug;1348(1):150-60.
- European Medicines Agency (EMA). Available online: https://www.ema.europa.eu/en (accessed on 20 may 2024).
- Food and Drug Administration (FDA). Available online: https://www.fda.gov (accessed on 20 may 2024).
- 9. European Food Safety Authority (EFSA). Available online: https://www.efsa.europa.eu/en (accessed on 20 may 2024).
- Regulation on cosmetic products No 1223/2009 of the European Parliament and of the Council of 30 November 2009
- 11. Food and Drug Administration (FDA). Available online: https://www.fda.gov (accessed on 20 may 2024).

- 12. Sabra A, Netticadan T, Wijekoon C. Grape bioactive molecules, and the potential health benefits in reducing the risk of heart diseases. Food Chem X. 2021 Oct 27;12:100149.
- Dave A, Beyoğlu D, Park EJ, Idle JR, Pezzuto JM. Influence of grape consumption on the human microbiome. Sci Rep. 2023 May 12;13(1):7706. doi: 10.1038/s41598-023-34813-5.
- Santos-Buelga C, González-Manzano S, González-Paramás AM. Wine, Polyphenols, and Mediterranean Diets. What Else Is There to Say? Molecules. 2021 Sep 12;26(18):5537.
- 15. Berry, E.M. Sustainable Food Systems and the Mediterranean Diet. *Nutrients* 2019, *11*, 2229.
- Hrelia S, Di Renzo L, Bavaresco L, Bernardi E, Malaguti M, Giacosa A. Moderate Wine Consumption and Health: A Narrative Review. Nutrients. Dec 30;15(1):175 (2022)
- Giacosa A, Barale R, Bavaresco L, Faliva MA, Gerbi V, La Vecchia C, Negri E, Opizzi A, Perna S, Pezzotti M, Rondanelli M. Mediterranean Way of Drinking and Longevity. Crit Rev Food Sci Nutr. 2016;56(4):635-40.
- Souvenirs: What and Why We Buy? H. Wilkins, J.Travel Res. 49(3) April 2010
- 19. https://ich.unesco.org/en/RL/mediterranean-diet-00884
- 20. Pribisalić A, Popović R, Salvatore FP, Vatavuk M, Mašanović M, Hayward C, Polašek O, Kolčić I. The Role of Socioeconomic Status in Adherence to the Mediterranean Diet and Body Mass Index Change: A Follow-Up Study in the General Population of Southern Croatia. Nutrients. 2021 Oct 26;13(11):3802.
- Firuzi O, Miri R, Tavakkoli M, Saso L. Antioxidant therapy: current status and future prospects. Curr Med Chem. 2011;18(25):3871-88.
- 22. Saso L, Firuzi O. Pharmacological applications of antioxidants: lights and shadows. Curr Drug Targets. 2014;15(13):1177-99.
- 23. https://ledonnedelvino.com/lassociazione/
- 24. www.womenofthevine.com
- 25. www.lesfabulleuses.com
- 26. www.fabulousladieswinesociety.com
- 27. www.womenforwinesense.org
- 28. www.womeninwineuk.com
- 29. https://kobietyiwino.com/
- Radulescu, C.; Buruleanu, L.C.; Nicolescu, C.M.; Olteanu, R.L.; Bumbac, M.; Holban, G.C.; Simal-Gandara, J. Phytochemical Profiles, Antioxidant and Antibacterial Activities of Grape (Vitis

vinifera L.) Seeds and Skin from Organic and Conventional Vineyards. Plants **2020**, 9, 1470.

- 31. https://globalwellnessinstitute.org/wellnesseviden ce/?__hstc=140254188.61c7f19647a7c17c3756b 5717444eb66.1725783710670.1725783710670.1 725786482740.2&_hssc=140254188.1.1725786 482740&__hsfp=1862404959
- Cava Jimenez JA, Millán Vázquez de la Torre MG, Dancausa Millán MG. Enotourism in Southern Spain: The Montilla-Moriles PDO. Int J Environ Res Public Health. Mar 13;19(6):3393 (2022)
- 33. https://whc.unesco.org/en/list/1390/
- 34. www.sources-caudalie.com
- 35. (https://www.adler-resorts.com/en/adler-sparesort-thermae/25-0.html)
- (https://www.marriott.com/hotels/travel/biolchotel-marques-de-riscal-a-luxury-collectionhotel-elciego/)
- 37. https://www.loisium.com/en/
- 38. https://www.kenwoodinn.com/)
- 39. https://vinesresortandspa.com/
- 40. https://kingsfordbarossa.com.au/food-wine/winetunnel-and-vaults/
- 41. www.yunessun.com/spa/yunessunindoor.html#wine