

From Tanks to TTB to Tasting Room: things to think about when starting a commercial winery

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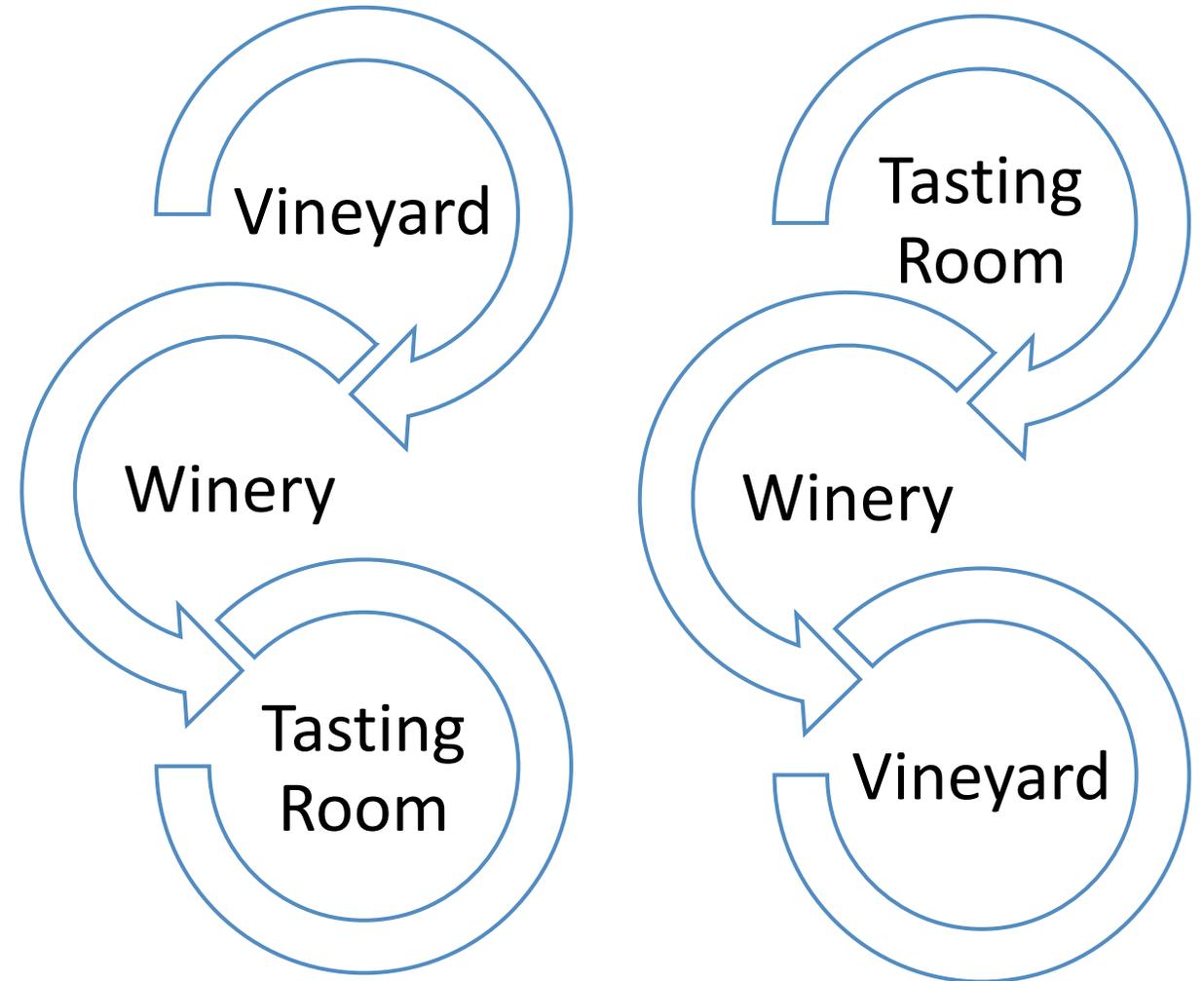
Virginia Tech

12/16/19 & 12/17/19





Where are you in your journey?



Plan & prepare



“Give me six hours to chop down a tree and I will spend the first four sharpening the axe.”
- Abraham Lincoln

Gain experience



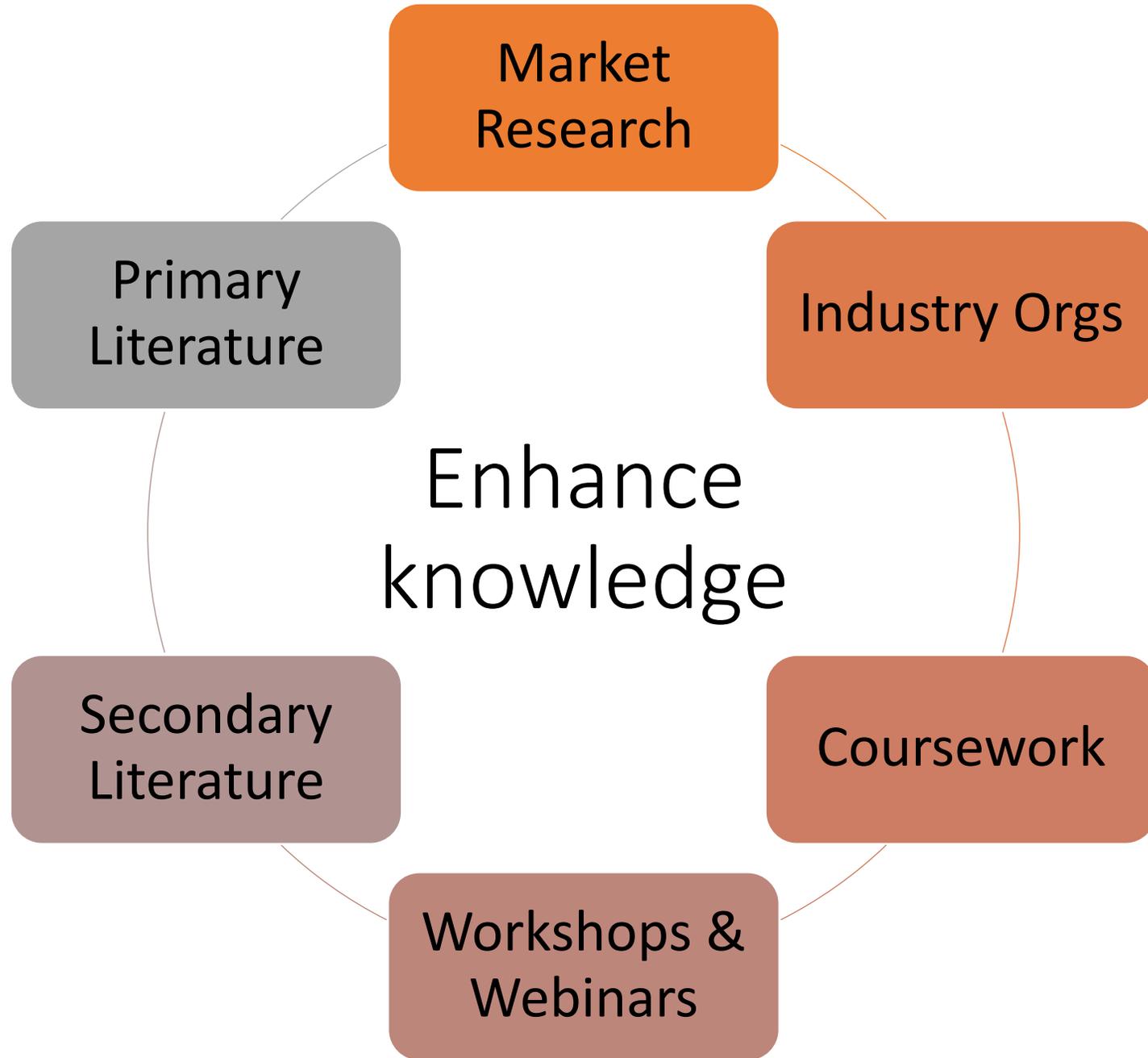
Use varieties that you have planted/plan to plant



Get honest feedback



Practice at commercial scale



Resources for Winemaking & Winery Planning

Coursework:

Surry Community College (<https://surry.edu/areas-of-study/all-programs/viticulture-and-enology-enology-track>)

Piedmont Virginia Community College
(<https://www.pvcc.edu/wine>)

VESTA (<https://www.vesta-usa.org/>)

Industry Organizations:

Georgia Wine Producers

<https://www.georgiawineproducers.org/>

North Carolina Winegrower's Association

<https://www.ncwinegrowers.com/>

Secondary literature + workshops & webinars:

Penn State - <https://psuwineandgrapes.wordpress.com/>

Cornell -

<https://grapesandwine.cals.cornell.edu/extension/>

Virginia Tech - @VTEnology; stay tuned

Texas A&M - [https://aggie-](https://aggie-horticulture.tamu.edu/vitwine/)

[horticulture.tamu.edu/vitwine/](https://aggie-horticulture.tamu.edu/vitwine/)

UC Davis - <https://wineserver.ucdavis.edu/extension>

Washington State - <http://wine.wsu.edu/extension/>

Textbooks (primary lit):

- Principles and Practices of Winemaking;
- Boulton et al. 1999
- Chem Analysis (2nd ed.), Micro Analysis, and Monitoring the WM process (2nd. ed); Patrick Iland.
<https://winebookcellar.com.au/iland/>
- Wine Analysis and Production; Zoecklein et al. 1997.
- Winemaking Problems Solved;
- Christian Butzke (Ed.), 2010.
- Winery Planning and Design (17th ed.); Bruce Zoecklein.
<https://winesvinesanalytics.com/store.cfm?shop=bookshelf>
- Winery Technology and Operations; Yair Margalit, 1996.
- The Business of Winemaking; Jeffrey Lamy, 2015.

Journals:

American Journal of Enology and Viticulture (primary lit):

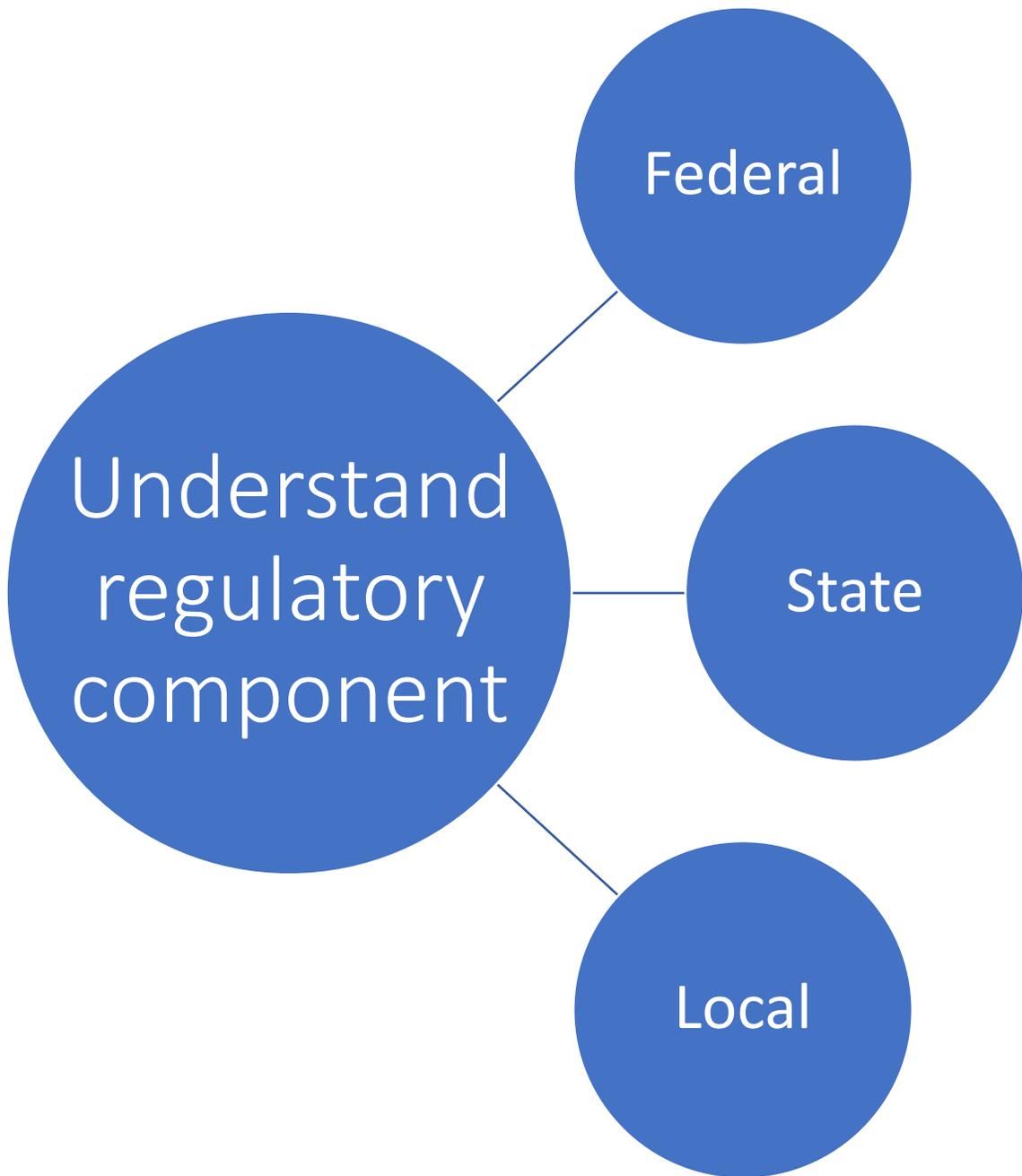
<https://www.ajevonline.org/>

Wine Business Monthly (trade):

<https://www.winebusiness.com/wbm/>

Wines and Vines (trade):

<https://winesvinesanalytics.com/>



Establish & operate app
 Basic application
 Bonded winery license
 Label approval
 OSHA (GA)



ABC or Dept. of Revenue
 permits
 Label approval (state)
 Food safety, i.e. GMPs,
 FSMA, HACCP
 OSHA (NC & VA)



Land use & zoning
 Business license
 Special events permits
 Dept. of Health



Note: these lists are not comprehensive

Considerations when formalizing your business plan



Production

Distribution

Diversification



Additional resource: Writing a Business Plan: A Guide for Small Premium Wineries

http://publications.dyson.cornell.edu/outreach/extensionpdf/2002/Cornell_AEM_eb0206.pdf

Production considerations



What is my anticipated yield?



Am I planning to age my wines?



What is the typical bottle price?



Who is my target market?



Leave room for growth and diversification

Example

Yield per Vine - Northern Grapes Vineyard

Grape Variety	Average yield (lb/vine)	Number of vines	Potential yield (lbs)	Total Gallons	Tank Size Necessary	Total Bottles (750mL)
Frontenac	9	250	2250	168.75	172	843.75
Louise Swenson	10	250	2500	187.5	104 (2)	937.5
Edelweiss	7.5	250	1875	140.625	172	703.125
La Crescent	10	250	2500	187.5	104 (2)	937.5
Sabrevois	8	250	2000	150	172	750
St. Pepin	10	250	2500	187.5	104 (2)	937.5
Marquette	8	500	4000	300	172 (2)	1500
Adalmiina	9.5	250	2375	178.125	104 (2)	890.625
Total Vines:		2250	Total Gallons:	1500	Sum of Bottles:	7500
					Total Cases:	625

https://harvestny.cce.cornell.edu/uploads/doc_40.pdf

Other sources for calculating yield:

[Vineyard Financial Calculator: https://www.pubs.ext.vt.edu/AREC/AREC-188/AREC-188.html](https://www.pubs.ext.vt.edu/AREC/AREC-188/AREC-188.html)

<https://grapesandwine.cals.cornell.edu/newsletters/appellation-cornell/2011-newsletters/issue-8/conversion-factors-vineyard-bottle/>

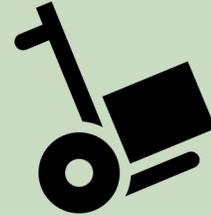
Distribution



Direct to
Consumer



Wholesale



Distributor

Diversification



(📷: Allison Usavage)

Estimating anticipated production, distribution channels, and alternate streams of revenue will help coalesce your projected cash flow.

TABLE 8: Cash Flow Projections by Winery Size and Year (\$)

Year	2,000 Cases	5,000 Cases	10,000 Cases	15,000 Cases	20,000 Cases
1	(\$211,701.87)	(\$455,614.72)	(\$644,015.64)	(\$1,007,012.91)	(\$1,336,218.07)
2	(\$82,146.79)	(\$142,627.87)	(\$260,548.17)	(\$471,575.58)	(\$671,170.75)
3	\$47,287.86	\$171,045.06	\$417,761.69	\$504,658.49	\$578,969.30
4	\$62,609.42	\$208,354.68	\$449,506.81	\$613,295.81	\$721,883.52
5	\$65,791.88	\$215,406.79	\$462,671.22	\$631,248.66	\$743,868.36
6	\$125,463.12	\$312,375.07	\$525,603.29	\$824,195.83	\$1,002,053.46
7	\$128,297.17	\$291,775.12	\$490,150.41	\$696,609.56	\$1,016,097.16
8	\$130,753.75	\$260,272.10	\$490,765.33	\$674,980.96	\$834,098.07
9	\$112,738.86	\$256,508.65	\$490,622.35	\$675,943.24	\$833,473.79
10	\$114,973.82	\$261,737.36	\$501,079.01	\$690,682.39	\$851,743.61

Small Winery Investment and Operating Costs (2005):

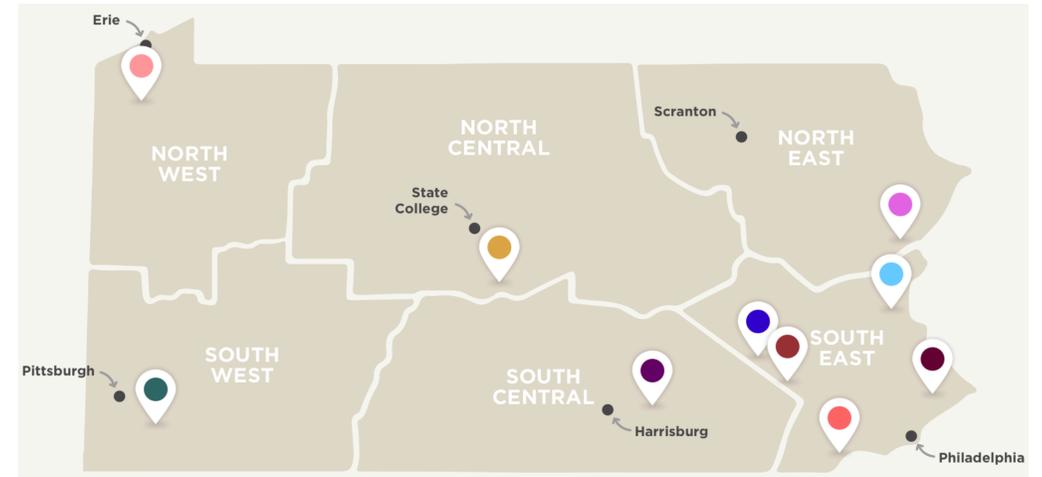
http://ses.wsu.edu/wp-content/uploads/2015/02/eb1996_05.pdf

Winery Design – location, location, location

What's nearby?

How easily can people get to me?

Buses feasible?



<https://pennsylvaniawine.com/wine-trails/>

Potable water?

Sewage?

Three-phase power?



https://ohiograpeweb.cfaes.ohio-state.edu/sites/grapeweb/files/imce/pdf_wine/So%20You%20Want%20to%20Start%20A%20Winery%20-%20OWPA%20Sit%2C%20Sip%20and%20Learn%20Final.pdf

Winery Design – functionality & flow



Grapes

Covered crush pad
Forklift accessible
Space for: sorting table,
crusher/destemmer,
press

Bin/Barrel

Humidity-controlled
barrel room
Refrigerated walk-in
and/or jacketed tanks
Cement floors
Excellent drainage

Bottle

Space for: pumps &
filtration equipment
Bottling line
Storage space!

Plus lab space and room for expansion

Winery Equipment – areas for investment

Receiving

- Scale
- Fork lift, pallet jack
- Crusher/destemmer
- Press

Fermentation/Storage

- Tubs, buckets, bins
- Glass carboys
- Stainless steel tanks
- Barrels

Cellar Equipment

- Must pump
- Transfer pump
- Hoses

Bottling

- Filtration system(s)
- Bottles
- Bottling line?
- Corker & corks

Lab Equipment

- Refractometer
- Hydrometer
- pH meter, TA set up
- Scale
- A/O set up (sulfur)

Miscellaneous

- Three bay sink
- Counters, tables, chairs
- Packaging material
- Basic chemicals/sanitation
- Fee-for-service lab analysis

https://harvestny.cce.cornell.edu/uploads/doc_40.pdf

http://ses.wsu.edu/wp-content/uploads/2015/02/eb1996_05.pdf

Winery Equipment – considerations when choosing



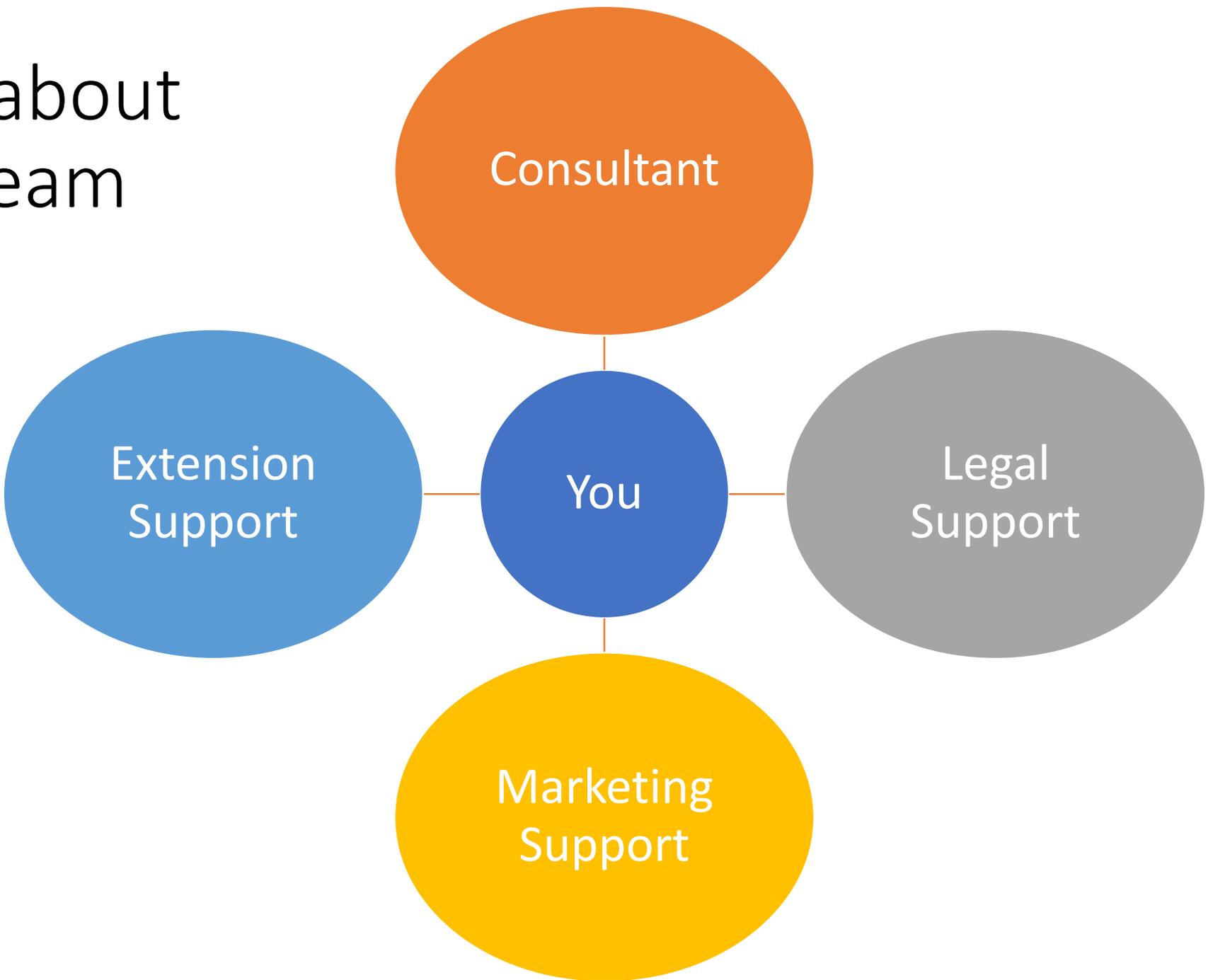
Winemaking considerations



Other considerations



Think about
your team



In conclusion

“Winemaking is 49% hauling stuff,
49% cleaning stuff, and 2% drinking beer.
- Greg Harrington, Gramercy Cellars

If that sounds like the life for you,
then let's get to it!

