

Product 2 – Skills & knowledge catalogue

Oenology

Wine makers educated / working on EQF level 4 have the following knowledge and skills in the field of oenology.

1.	<p style="text-align: center;">Must analysis</p> <p>Determination of pH - value in the must – by means of pH meter Determination of total acidity in the must – with n/3 lye with indicator (25 ml of must) Determination of sugar in the must – by means of refractometer or must spindle (determination of °Oechsle, °Brix, °KMW, grams per litre possible; a conversion table will be supplied at the contests)</p> <p>Requirements:</p> <ol style="list-style-type: none"> 1. carrying out the determination 2. describing the analysing methods 3. interpreting the results
2.	<p style="text-align: center;">Wine analysis</p> <p>Determination of pH - value in the wine – by means of pH meter Determination of total acidity in the wine – with n/3 lye with indicator (25 ml of wine) considering carbonic acid Determination of titrable sulphurous acid (H₂SO₃) – iodine solution (25 ml of wine and the following separated solutions: acid, starch, iodine) Determination of alcohol and total extract – distillation method Determination of residual sugar (Rebelein or Fehling method)</p> <p>Requirements:</p> <ol style="list-style-type: none"> 1. Carrying out the determination 2. Describing the analysing methods 3. Interpreting the results 4. Interpreting the total analysis

White wine and red wine production	
3.	<p>Grape processing: Purpose of destemming Sulphuring of must (purpose, calculation of amount) Addition of enzymes (purpose) Cooling of must Pneumatic presses (types, advantages and disadvantages) Melioration of must (calculation – grape juice concentrate)</p>
4.	<p>Wine making: Measures for performance of fermentation (promotion and hindrance of fermentation) Wine containers (advantages and disadvantages, characteristics) contents of wine Malolactic fermentation (advantages and disadvantages, prerequisites, prevention) Red wine making (fermentation on skins, stabilizing of colour)</p>
5.	<p>Wine treatment and wine stabilization: Racking off (purpose, kinds, what to look for) Calculation of sulphuring Calculation of amounts of fining agents Acidification (additives, amounts, calculations) Deacidification (additives, amounts, calculations) Wine stabilization (meta-tartaric acid, cooling, contact procedure) Addition of carbonic acid (purpose, possibilities) Addition of residual sweetness (with grape juice and grape juice concentrate – calculations) Proper packing of sheet filters Describing the carrying out</p>
6.	<p>Bottling: Devices: hoses, pumps, sheet filter, automatic bottle filler Task: assembling the line with filter and bottler up to the bottle for time – put into operation with water</p>
7.	<p>Wine faults Tasks: 1. recognizing the fault 2. cause of fault 3. prevention of fault 4. possible elimination of fault</p>
8.	<p>Fining Tasks: 1. Recognizing the agent 2. Purpose of usage 3. Carrying out the fining</p>

CATALOGUES - OENOLOGY

7) Wine faults
mouldy taste
oxydation
volatile acidity
SO ₂
untypical ageing note
filter taste
Brettanomyces
reduction
cork taint

8) Fining agents
bentonite
blue fining (potassium ferrocyanide)
copper sulfate
Polyvinylpolypyrrolidon (PVPP)
charcoal
casein
gelatin

Conversion table: °Oe; %Brix; sugar g/l; Alc.Vol%; ~KMW

°Oechsle	%Brix	g/l sugar	%Alc.Vol	~KMW
40	9,14	104,00	5,063	8,00
41	9,37	106,60	5,190	8,20
42	9,60	109,20	5,316	8,40
43	9,83	111,80	5,443	8,60
44	10,06	114,40	5,570	8,80
45	10,29	117,00	5,696	9,00
46	10,51	119,60	5,823	9,20
47	10,74	122,20	5,949	9,40
48	10,97	124,80	6,076	9,60
49	11,20	127,40	6,203	9,80
50	11,43	130,00	6,329	10,00
51	11,66	132,60	6,456	10,20
52	11,89	135,20	6,582	10,40
53	12,11	137,80	6,709	10,60
54	12,34	140,40	6,835	10,80
55	12,57	143,00	6,962	11,00
56	12,80	145,60	7,089	11,20
57	13,03	148,20	7,215	11,40
58	13,26	150,80	7,342	11,60
59	13,49	153,40	7,468	11,80
60	13,71	156,00	7,595	12,00
61	13,94	158,60	7,722	12,20
62	14,17	161,20	7,848	12,40
63	14,40	163,80	7,975	12,60
64	14,63	166,40	8,101	12,80
65	14,86	169,00	8,228	13,00
66	15,09	171,60	8,354	13,20
67	15,31	174,20	8,481	13,40
68	15,54	176,80	8,608	13,60
69	15,77	179,40	8,734	13,80
70	16,00	182,00	8,861	14,00
71	16,23	184,60	8,987	14,20
72	16,46	187,20	9,114	14,40
73	16,69	189,80	9,241	14,60
74	16,91	192,40	9,367	14,80
75	17,14	195,00	9,494	15,00
76	17,37	197,60	9,620	15,20
77	17,60	200,20	9,747	15,40
78	17,83	202,80	9,873	15,60
79	18,06	205,40	10,000	15,80
80	18,29	208,00	10,127	16,00
81	18,51	210,60	10,253	16,20
82	18,74	213,20	10,380	16,40
83	18,97	215,80	10,506	16,60
84	19,20	218,40	10,633	16,80
85	19,43	221,00	10,759	17,00
86	19,66	223,60	10,886	17,20
87	19,89	226,20	11,013	17,40
88	20,11	228,80	11,139	17,60
89	20,34	231,40	11,266	17,80
90	20,57	234,00	11,392	18,00
91	20,80	236,60	11,519	18,20
92	21,03	239,20	11,646	18,40
93	21,26	241,80	11,772	18,60
94	21,49	244,40	11,899	18,80
95	21,71	247,00	12,025	19,00

°Oechsle	%Brix	g/l sugar	%Alc.Vol	~KMW
96	21,94	249,60	12,152	19,20
97	22,17	252,20	12,278	19,40
98	22,40	254,80	12,405	19,60
99	22,63	257,40	12,532	19,80
100	22,86	260,00	12,658	20,00
101	23,09	262,60	12,785	20,20
102	23,31	265,20	12,911	20,40
103	23,54	267,80	13,038	20,60
104	23,77	270,40	13,165	20,80
105	24,00	273,00	13,291	21,00
106	24,23	275,60	13,418	21,20
107	24,46	278,20	13,544	21,40
108	24,69	280,80	13,671	21,60
109	24,91	283,40	13,797	21,80
110	25,14	286,00	13,924	22,00
111	25,37	288,60	14,051	22,20
112	25,60	291,20	14,177	22,40
113	25,83	293,80	14,304	22,60
114	26,06	296,40	14,430	22,80
115	26,29	299,00	14,557	23,00
116	26,51	301,60	14,684	23,20
117	26,74	304,20	14,810	23,40
118	26,97	306,80	14,937	23,60
119	27,20	309,40	15,063	23,80
120	27,43	312,00	15,190	24,00
121	27,66	314,60	15,316	24,20
122	27,89	317,20	15,443	24,40
123	28,11	319,80	15,570	24,60
124	28,34	322,40	15,696	24,80
125	28,57	325,00	15,823	25,00
126	28,80	327,60	15,949	25,20
127	29,03	330,20	16,076	25,40
128	29,26	332,80	16,203	25,60
129	29,49	335,40	16,329	25,80
130	29,71	338,00	16,456	26,00
131	29,94	340,60	16,582	26,20
132	30,17	343,20	16,709	26,40
133	30,40	345,80	16,835	26,60
134	30,63	348,40	16,962	26,80
135	30,86	351,00	17,089	27,00
136	31,09	353,60	17,215	27,20
137	31,31	356,20	17,342	27,40
138	31,54	358,80	17,468	27,60
139	31,77	361,40	17,595	27,80
140	32,00	364,00	17,722	28,00
141	32,23	366,60	17,848	28,20
142	32,46	369,20	17,975	28,40
143	32,69	371,80	18,101	28,60
144	32,91	374,40	18,228	28,80
145	33,14	377,00	18,354	29,00
146	33,37	379,60	18,481	29,20
147	33,60	382,20	18,608	29,40
148	33,83	384,80	18,734	29,60
149	34,06	387,40	18,861	29,80
150	34,29	390,00	18,987	30,00