$1 29(59,(: 21 %275<7,=(' :,1(6

5(9,6-2 9,1+26 %275,7,=$'26

*HRUJLRV .DOOL

/($) /LQNLQJ /DQGVFDSH (QYLURQPHQW

7DSDGD GD $MXGD /LVERD 3RUWXJDO

&H)(0$ &HQWUH RI 3K\VLFV DQG (QJLQ

5RYLVFR 3DLV /LVERD 3RUWXJDO

&RUUHVSRQGLQJ DXWKRU 7HO

(Received 08.06.2020. Accepted 29.08.2020)

6800$5<

1REOH URW ZLQH LV D VSHFLILF Botrytis cinerea

DUH SURGXFHG LQ VSHFLILF ZLQH

RQHV 7KH SXUSRVH RI WKH FXUU

GHWDLOHG DQDO\VLV RI WKH LQ Botrytis cinerea

VSHFLDO HPSKDVLV LV JLYHQ WR

QXPEHU RI SDUDPHWHUV H J

ERWU\WL]HG ZLQHV

5(6802

2V YLQKRV ERWULWL]DGRV UHSUHV

Botrytis cinerea, DWUDYpV GH XP SURFHVVR GHVLJ

6DXWHUQHV H 7RND\ RULJLQiULRV

UHYLVWRV RV SULQFLSDLV DVSHF

SRU cinerea H GLVFXWLGDV DV SULQFLSDLV

GH PXLWRV IDFWRUHV GHVGH

GHVWDFD D VLQJXODULGDGH GHVWH WLSR GH YLQKRV

.H\ ZRUGV Botrytis cinerea QREOH URW VZHHW ZLQHV

3DODYUDV FKDYH Botrytis cinerea SRGULGmR QREUH YLQKRV GRFHV

,1752'8&7,21

$FFRUGLQJ WR WKH ,QWHUQDWLRQDO

DQG :LQH 2,9 QREOH URW ZLQH

JHQHUDO FDWHJRU\ RI ³6SHFLDO

DUH ZLQHV FRPLQJ IURP IUHVK

ZLQHV WKDW KDYH XQGHUJRQH

RU DIWHU WKHLU SURGXFWLRQ

FRPH QRW RQO\ IURP WKH JUDSH

SURGXFWLRQ WHFKQLTXH XVHG

IORU RU ILOP ZLQHV OLTXHXU

FDUERQDWHG ZLQHV VZHHW ZLQ

GHULYHG IURP JUDSHV DQG LFH

7KH VXEFDWHJRU\ RI ³6ZHHW ZLQHV

GHULYHG IURP JUDSHV´ ZKHUH QRE

7KH SRWHQWLDO DOFRKROLF VWUHQJ

7KLV LV DQ 2SHQ $FFHVV DUWLFOH

KWWSV FUHDWLYHFRPPRQV RUJ

ZRUN LV SURSHUO\ FLWHG

Botrytis cinerea

B. cinerea

et al.

pourri plein

pourri rôti

et al.

pourri plein

pourri rôti'

Estádios do processo de botritização na variedade 'Semillon'. Sem infecção aparente (A), infecção ligeira (B), pourri plein (C)), e pourri rôti (D) (Blanco-Ulate et al., 2015) (Foto cedida por Château la Varière, Brissac-Quincé, França).

B. cinerea

Vitis vinifera

et al

Características analíticas de vinhos botritizados de diferentes regiões Francesas

BOTRYTIS CINEREA

B. cinerea

B. cinerea Botryotinia fuckeliana

Ascomycota Pezizomycotina Leotiomycetes Helotiales Sclerotiniaceae Botryotinia

et al.

et al.

et al.

B. cinerea

B. cinerea

z

B. cinerea

z

B. cinerea

et al.

et al.

et al.

B. cinerea

Botrytis

B. cinerea

et al.

B. cinerea

B. pseudocinerea

et al.

et al.

et al.

et al.

B. cinerea

B. cinerea's

et al.

B. cinerea

et al.

et al.

et al.

et al.

et al.

et al.

et al.

Vitis vinifera L. *B. cinerea*

B. cinerea

et al.

Vitis vinifera

et al.

B. cinerea

et al.

µ

o

et al.

B. cinerea

µ

µ *et al.*

µ o

o µ

o

o

et al.

et al.

et al.

B. cinerea

pourri plein

et al. *et al.*

B. cinerea

β

o

pourri plein *B. cinerea*

pourri rôti

o

o

o o

o *B. cinerea*

et al. *et al.*

B. cinerea

et al.

et al.

et al. [illegible] *et al.* KDYH GHPRQVWUDWHG WKDW SR[illegible] KDUYHVW [illegible]

B. cinerea [illegible]

[illegible] *et al.* [illegible]

[illegible] *et al.* [illegible]

[illegible] *B. cinerea* [illegible]

[illegible] *B. cinerea* [illegible]

[illegible] *B. cinerea* [illegible]

[illegible] *et al.* [illegible]

[illegible] *et al.* [illegible]

[illegible] *B. cinerea* [illegible]

[illegible] *B. cinerea* [illegible]

pourri rôti

BOTRYTIS CINEREA

B. cinerea

et al.

et al.

et al.

et al.

et al.

et al.

pourri plein

et al.

β

o β *o*

β *o*

o *et al.* *o*

B. cinerea

et al.

et al. β

et al. *o* *o*

et al.

et al.

o

o *o* *o o*

o

o *et al.*

p

o *o*

o *o*

o *o* *o*

et al

et

al

et

al

o *o* *o*

et al.

o

o o *o* *o*

o o *o* *o*

o o *o*

oo *o* *o*

o *o* *o* *o*

o

o *o* *et al.*

et al.

B. cinerea

et al.

et al.

o

o *et al.*

pourri

plein *pourri rôti*

B. cinerea

µ *o*

o *o*

o *o*

o *o*

o *o* *o* *o* *o*

o

o

o *o*

o *o*

o *o* *o* *o* *o*

o *o*

o *o* *o* *o* *o* *o*

o

o

o

o *o* *o*

o *et al.*

B. cinerea

et al.

Actividade lacase em diferentes estádios da infecção do bago por Botrytis cinerea

B. cinerea

B.

cinerea

et al

D

et al.

et al.

et al.

B. cinerea

et al.

B. cinerea

et al.,

et al.,

et al.,

B. cinerea

et al.D

Composição química do bago, por volume de mosto (L) e por número de bagos (1000) (Ribéreau-Gayon et al., 2006a)

et al.D

pourri plein

B. cinerea
et al. *et al.* *et al.*

Terpenes

et al.
et al.
et al.
Q
et al.
et al.
et al.
et al.
B. cinerea
et al
ω
o *o* *o*
o
o *ω* *o* *o* *o*
o *o* *o*
o *et al.*

Thiol precursors

et al.
et al.
et al.

et al.
et al. *$*
et al.
β *o* *o*
o
et al. *o*

et al. *Q*
et al. *&*
et al.

et al.
o *o*
o
o *o* *o*
o
pourri rôti
pourri plein *et al.*
B. cinerea
et al.

B. cinerea

et al.

et al.

et al

B. cinerea

et al *B. cinerea*

et al

et al. *et al.*

et al.

et al.

et al.

et al.

B. cinerea *et al.*

et al.

Phenolic acids and hydroxycinnamic esters

et al

et al

et al

Stilbenes

et al. *trans-*

et al.

et al.

et al.

B. cinerea

et al.

et al.

trans-

trans- *trans-*

ε

o *o* *o*

o *o*

opourri plein

et al.

Other phenolic compounds

B. cinerea

et al.

pourri rôti

et al

et al.

et al.

B. cinerea

et al.E

et al. E

et alE

Composição fenólica de um vinho branco seco e de um vinho botritizado

et alE

B. cinerea

B. cinerea

B. cinerea

et al.

et al.D

B. cinerea

B. cinerea

Penicillium expansum Penicillium crustosum Aspergillus niger Alternaria alternata

et al.

B. cinerea

et al.

B. cinerea

Penicillium Aspergillus

et al.

B. cinerea … *et al.*

Gluconobacter … *Gluconobacter oxydans* … *et al.*, … *et al.*,

… *et al.* … *Gluconobacter oxydans* … *Acetobacter aceti* … *Acetobacter pasteurianus* … *Acetobacter aceti* … *et al.*

et al

Presença de bactérias acéticas em mostos de uvas botritizadas em três vindimas consecutivas (Barbe et al., 2001)

… *pourri rôti* … *et al* …

… *et al* … *B. cinerea* … *et al* … *et al* … *et al* … *et al* … *et al.* …

et al.

et al.

pourri rôti

et al.

B. cinerea

et al.

et al.

B. cinerea *pourri rôti*

et al

et al

et al

et al

et al

et al

et al

et al

et al

et al

et al

et al. [illegible]

[illegible] *et al.*

[illegible] *et al.*

[illegible]

[illegible]

[illegible] *Saccharomyces cerevisiae* [illegible]

[illegible]

[illegible]

et al

B. cinerea β o

o o o o o o o o o o o o o o o o o o o o o o o o o o o

et al.

et al.

et al. $

et al.

et al.

et al.

et al.

et al. o o o o o o o o

et al. o o o o o o

et al. δ o o o o o o o

et al.

α o o o o o o o o o o *et al*

et al

B. cinerea

α o

et al.

et al.

et al.

et al.

Candida spp.

et al. *Candida* *Klyveromyces* *Saccharomyces* *et al.*

Candida *et al.*

Candida stellata *Candida stellata* *Saccharomyces cerevisiae*

Candida *et al.*

Candida stellata *et al.* *et al.*

Candida stellata *Candida zemplinina* *Candida zemplinina* *Starmerella bacillaris* *Saccharomyces cerevisiae*

et al.

et al. *Candida stellata* *Saccharomyces cerevisiae* *Candida stellata* *Candida zemplinina*

Torulaspora delbrueckii

Torulaspora delbrueckii *et al.*

Saccharomyces cerevisiae *S U R Y L G H G Z L Q H V Z L W K O R Z 9 $*

Saccharomyces cerevisiae *et al.*

Torulaspora delbrueckii *Saccharomyces cerevisiae*

et al.

et al.

Saccharomyces cerevisiae

et al.

et al.

et al.

et al.

et al.

et al.

B. cinerea

et al.

et al.

γ δ o o o o o o o o o o o o

o o o o o o o o o o o o o o

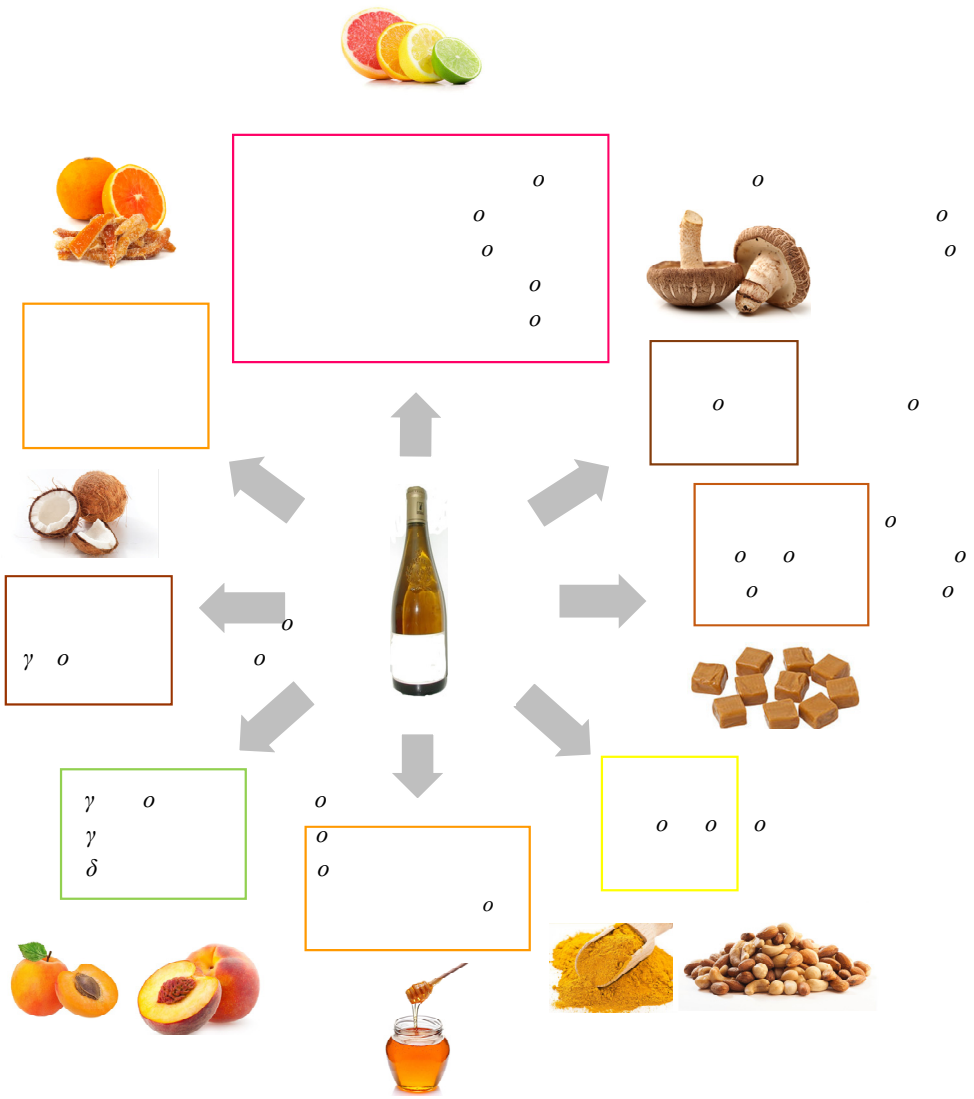
et al.

Saccharomyces cerevisiae

et al.

et al.

et al.



Compostos odorantes dos principais grupos de compostos do aroma encontrados nos vinhos botritizados.

[illegible]

[illegible] et al. [illegible]

[illegible] et al. D

[illegible]

[illegible] et al. [illegible] et al

[illegible]

et al. 0

et al.

et al.

*et al.

et al. [illegible]

[illegible] *B. cinerea* [illegible] *et al.* [illegible]

[illegible] *et al.* [illegible]

[illegible] *et al.* [illegible]

[illegible] *et al.*

[illegible] *et al.* [illegible]

[illegible] *et al.* [illegible]

[illegible] *et al.*

[illegible] *et al.*

[illegible] *et al.*

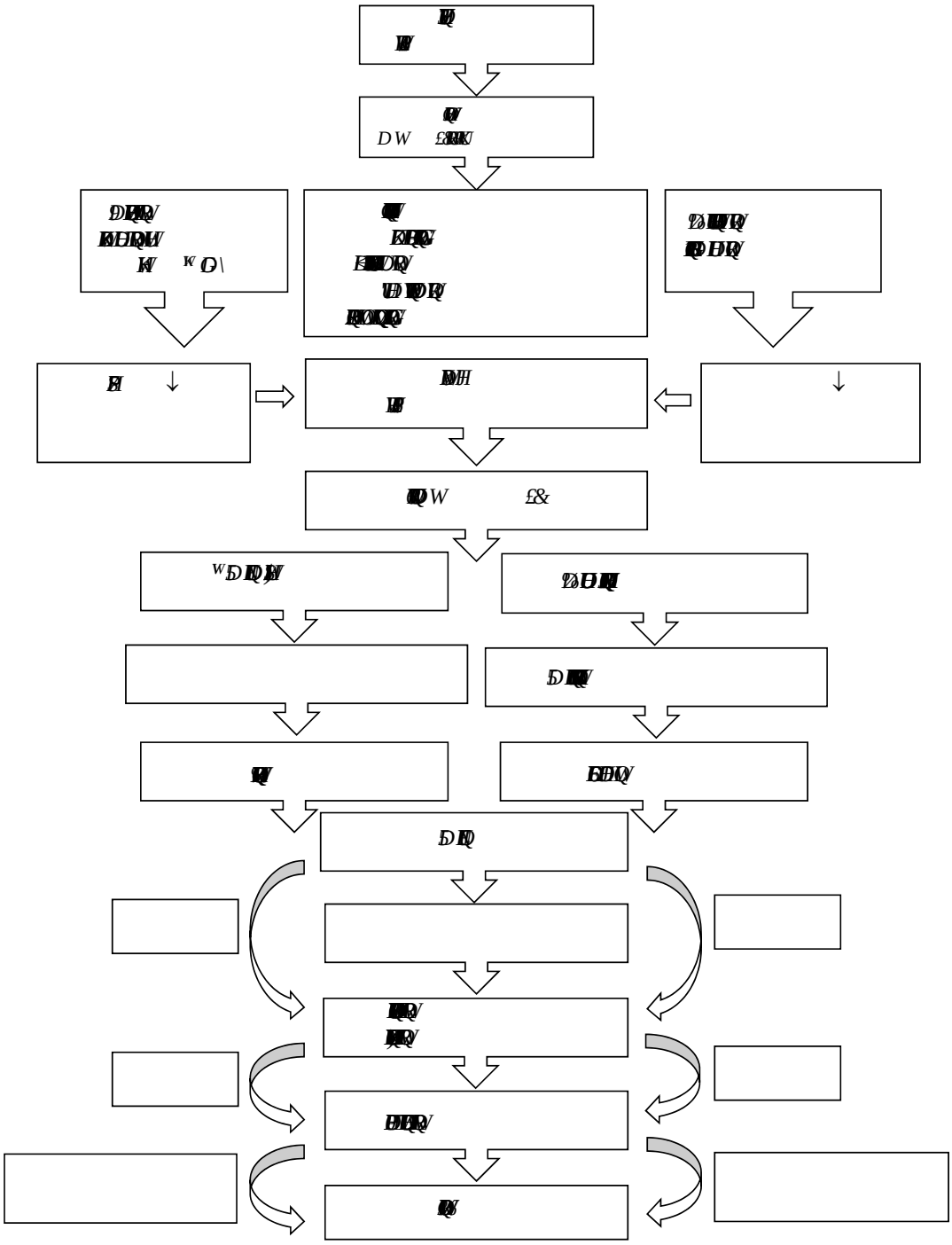


Diagrama de vinificação e envelhecimento de vinhos botritizados em barrica e em cuba.

Pasteurization

[illegible]

Sorbic acid

[illegible]

Dimethyl dicarbonate

[illegible]

[illegible]

Oenological tannins

[illegible]

Bentonite

[illegible]

Stabilization with silica

[illegible]

Filtration

[illegible]

Addition of beta-glucanases (β1-3, β1-6)

[illegible]

Inoculation of lactic acid bacteria

[illegible] *Oenococcus oeni* [illegible]

Carboxymethylcellulose

[illegible]

Ascorbic acid

[illegible]

Barrel aging

[illegible]

et al.

[illegible]

et al.

[illegible]

et al.

[illegible]

et al.

[illegible]

et al.D

[illegible]

et al.

[illegible]

Bottling aging

[illegible]

et al.

[illegible]

et al.

[illegible]

[illegible] *μ*

et al.

[illegible]

Aspergillus

[illegible] *Penicillium*

[illegible] *μ*

o o o o o o o o

B. cinerea o o

[illegible]

et al.

[illegible]

B. cinerea

[illegible]

et al., et al.

[illegible]

et al.

[illegible] *B. cinerea,*

[illegible]

et al.

[illegible]

et al.

[illegible]

B. cinerea

[illegible]

[illegible]

[illegible]

Eur. Food Res Technol

8ERQQ&RWHQ3VVDGN1VWH3LGH&HRQGXWH GHOD&JQ&RO &RURGXWLRQ GHUDVLQV &RUULV QREHFH ERUGHUV Connaiss. Vigne Vin

&RUDFRVD&RR&RQ&RQ&RRHO&RZQH PLFUREL&RQ&RQ&RHFLF&RUVRQGRQ

*&RQ&RQ &RQ &RQ &

[illegible] *Chaetomium globosum* [illegible] *Botrytis cinerea* [illegible] *Phormidium tenue* [illegible] *Chem. Pharm. Bull.*

[illegible] *J. Agric. Food Chem.*

[illegible] *Connaiss. Vigne Vin*

[illegible] *J. Agric. Food Chem.*

[illegible] *Botrytis cinerea* [illegible] *J. Appl. Microbiol.*

[illegible] *Food Chem*

[illegible] *Vitis Vinifera* [illegible] *Botrytis cinerea* [illegible] *Postharvest Biol. Tec*

[illegible] *In: Advances in Food and Nutrition Research, Volume 63* [illegible]

[illegible] *Candida stellata Candida zemplinina Saccharomyces uvarum* [illegible] *Saccharomyces cerevisiae Food Microbiol*

[illegible] *Botrytis cinerea* [illegible] *J. Agr. Food Chem.*

[illegible] *J. Int. Sci. Vigne Vin*

[illegible] *Agric. Biol. Chem*

[illegible] *Int. J. Food. Microbiol.,* [illegible]

[illegible] *Acta Aliment.*

[illegible] *Anal. Chim. Acta*

[illegible] *Botrytis* [illegible] *Appl. Environ. Microbiol.*

[illegible] *S*

[illegible] *Vitis Vinifera* [illegible] *Botrytis cinerea* [illegible] *I*

[illegible] *Front. Plant Sci.*

[illegible]

[illegible] *Ciência Téc. Vitiv.,*

[illegible] *Connaiss. Vigne Vin*

[illegible] *Connaiss. Vigne Vin*

[illegible] *Botrytis cinerea* [illegible] *Can. J. Bot.*

[illegible] *Food Chem. Toxicol.*

[illegible] *J. Org.* [illegible] *Chem.*

[illegible] *Candida zemplinina* [illegible] *Saccharomyces cerevisiae* [illegible] *Appl. Environ. Microbiol.*

[illegible] *Am. J. Enol. Vitic.*

[illegible] *Bull. OEPP*

[illegible]

[illegible]

[illegible] *Anal. Chim. Acta*

Vitis

[illegible] *I*
[illegible] *Botrytis cinerea* [illegible] *J. Food Sci.*

[illegible] *RI* [illegible] *Food Chem.*

[illegible] *J. Agric. Food Chem.*

[illegible] *In: Grand Prix de L'Académie Amorim* [illegible]

[illegible] *J. Agric. Food Chem.*

[illegible] *Chromatographia*

[illegible] *&* [illegible] *LGV Catal. Sci. Technol.*

[illegible] *Candida zemplinina* [illegible] *Candida stellata J. Basic. Microbiol.*

[illegible] *RI* [illegible] *Candida stellata* [illegible] *Saccharomyces cerevisiae* [illegible] *Aust. J. Grape Wine R.*

[illegible] *Rev. Œnologues*

[illegible] *H* [illegible] *Connaiss. Vigne Vin*

[illegible] *Aust. J. Grape Wine R.,*

[illegible] *Intl. J. Food Ferment. Technol.*

[illegible] *WLQ* *Vitis Vinifera* [illegible] *Food Chem*

[illegible] *Vitis Vinifera* [illegible] *J. Agr. Food Chem.*

[illegible] *Food Chem*

[illegible] *Food Chem.*

[illegible] *Botrytis cinerea* [illegible] *Mol. Plant Pathol.*

[illegible] *Botrytis pseudocinerea* [illegible] *Botrytis cinerea. Phytopathology,*

[illegible] *Food Chem.*

[illegible]

[illegible] *Science*