

Dominique
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International Wine Consulting



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Coinoculation and good practices for managing MLF, fruit, longevity and prevention of microbial spoilage (such as *Brettanomyces*) in red wines

**赤ワインにおけるコ・イノキュレーションとMLF管理手順
果実香、長期品質維持、変敗予防(ブレタノマイセス)**

Documento Dominique Delteil Consultant.

Impiego vietato per uso professionale (formazione, riproduzione, articoli, documentazione commerciale, ecc.) senza l'accordo scritto di Dominique Delteil

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**Testimonial of my R&D and consulting
experience with coinoculation yeast-bacteria**

**私の研究開発とコンサルティング業務の経験から
コ・イノキュレーションをお勧めします**

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1.

**What is yeast bacteria
coinoculation?**

酵母乳酸菌の

コ・イノキュレーションとは何か



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The winemaker vision

ワインメーカーの視点

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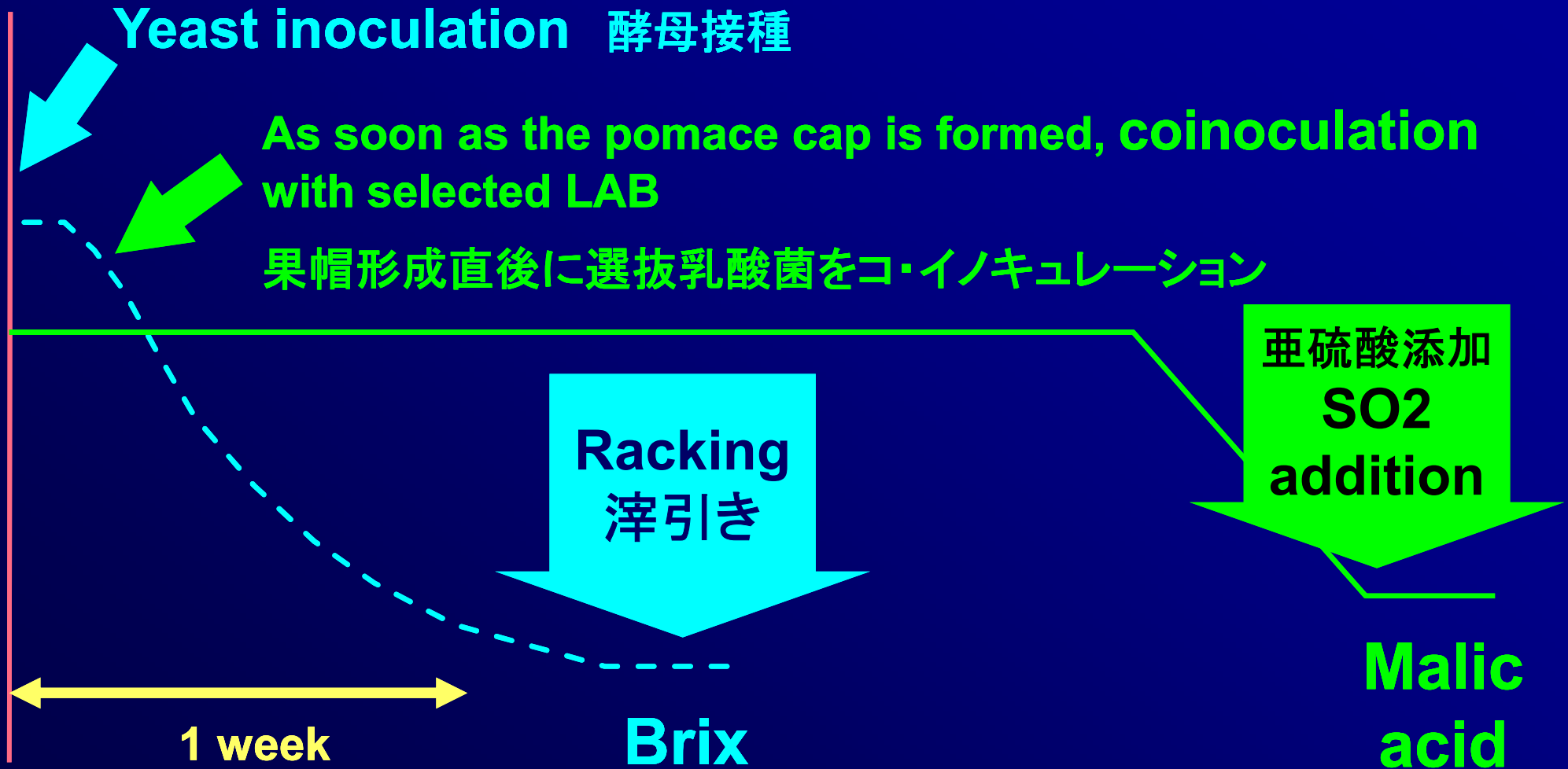
Brix and malic curves during a co-inoculated yeast - bacteria fermentation

コ・イノキュレーション中のBrixとリンゴ酸の推移



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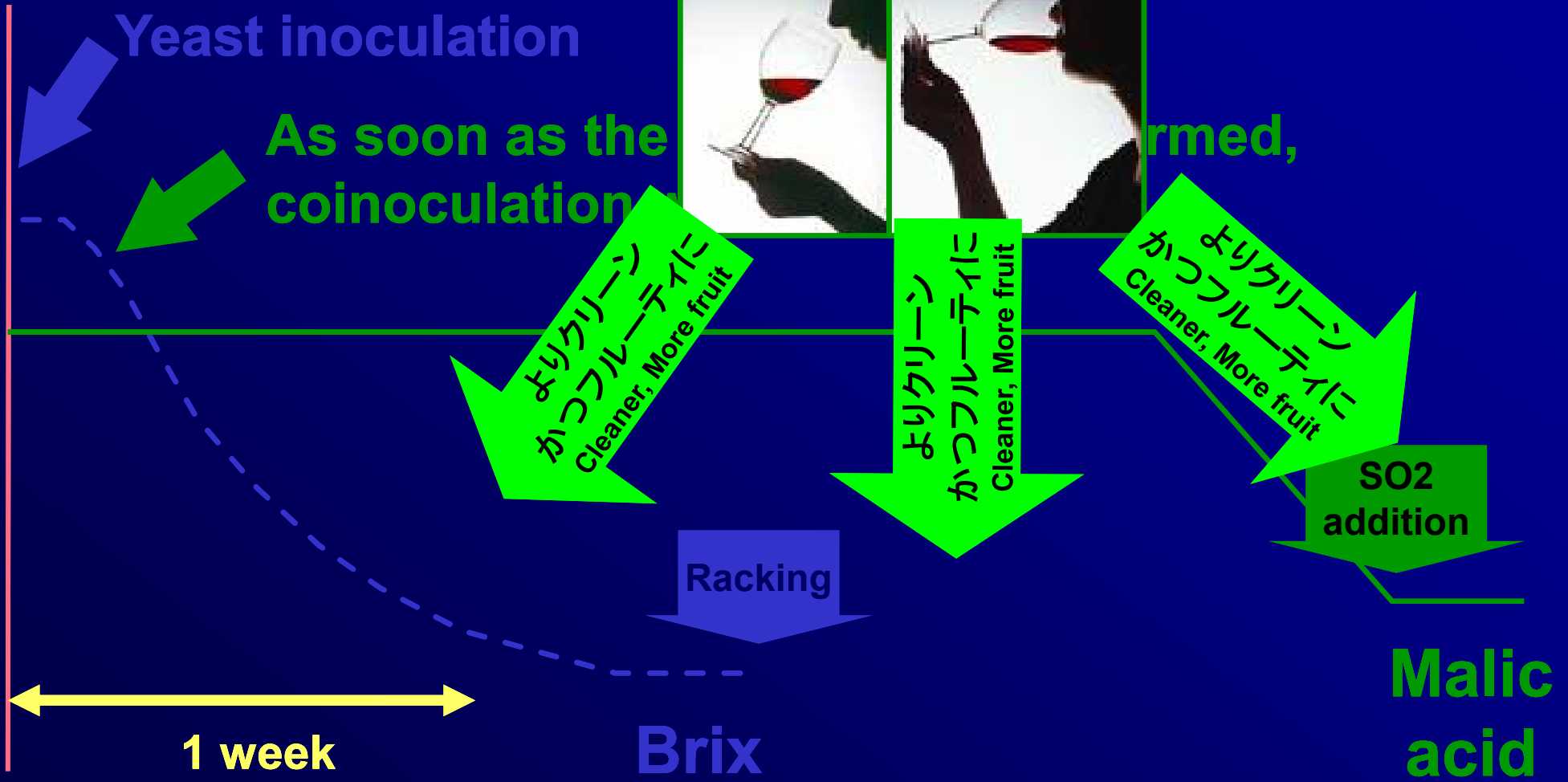
Two key winemaking actions 2つのキーアクション



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Sensory goals of coinoculation during fermentation

コ・イノキュレーション発酵中に目指す香味質



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Sensory goals of coinoculation during aging

コ・イノキュレーション後、熟成中に目指す香味質



Yeast inoculation 酵母接種

As soon as the pomace cap is formed, coinoculation with selected LAB

果帽形成直後に培養乳酸菌をコ・イノキュレーション

Malic acid

Brix

1 month

Aging 熟成

よりクリーン
かつフルーティに
Cleaner, More fruit

よりクリーン
かつフルーティに
Cleaner, More fruit

よりクリーン
かつフルーティに
Cleaner, More fruit



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The microbiologist vision

微生物学者の視点

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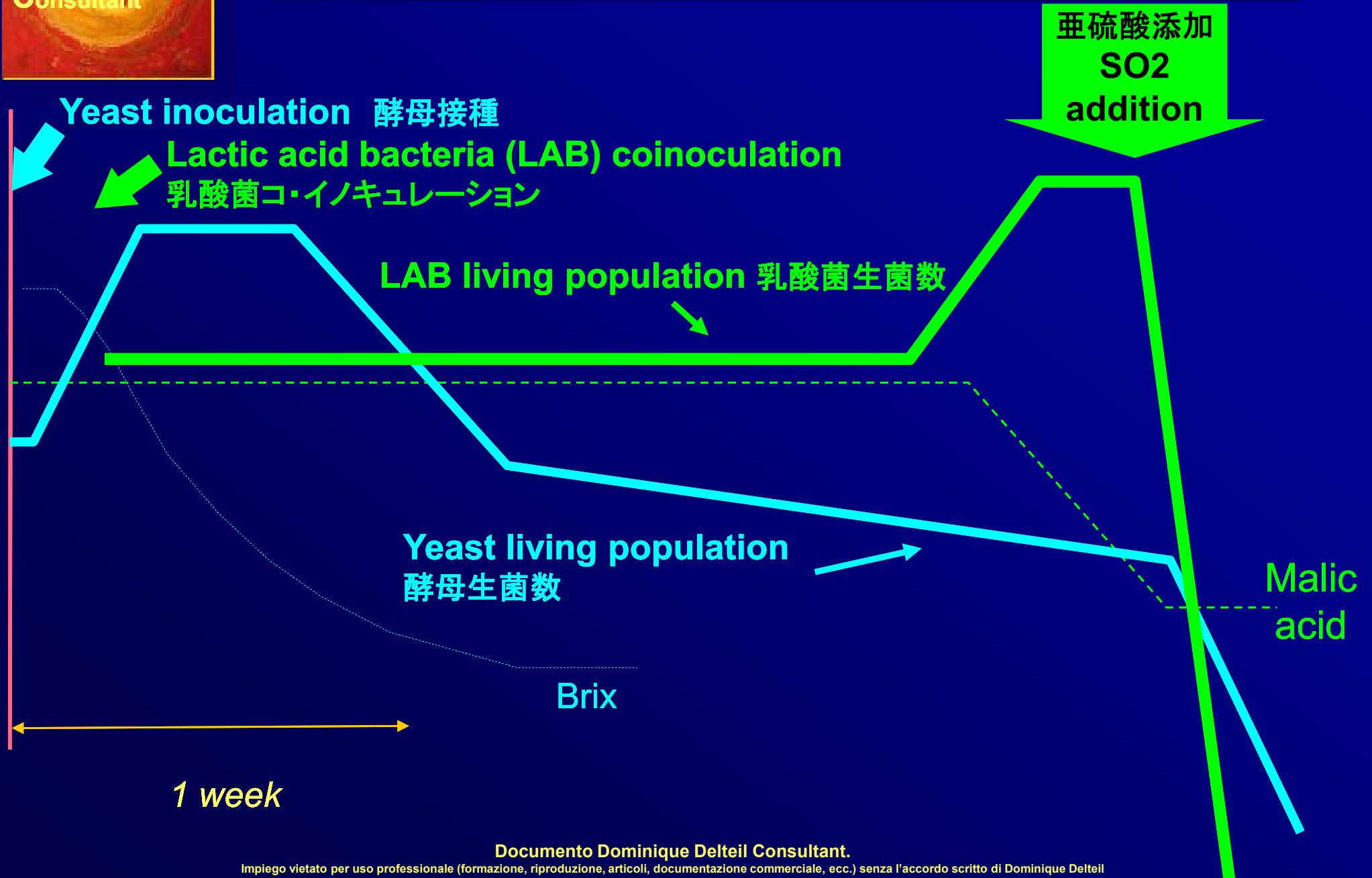
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Population curves during a co-inoculated yeast - bacteria fermentation

コ・イノキュレーション中の酵母・乳酸菌 菌数推移

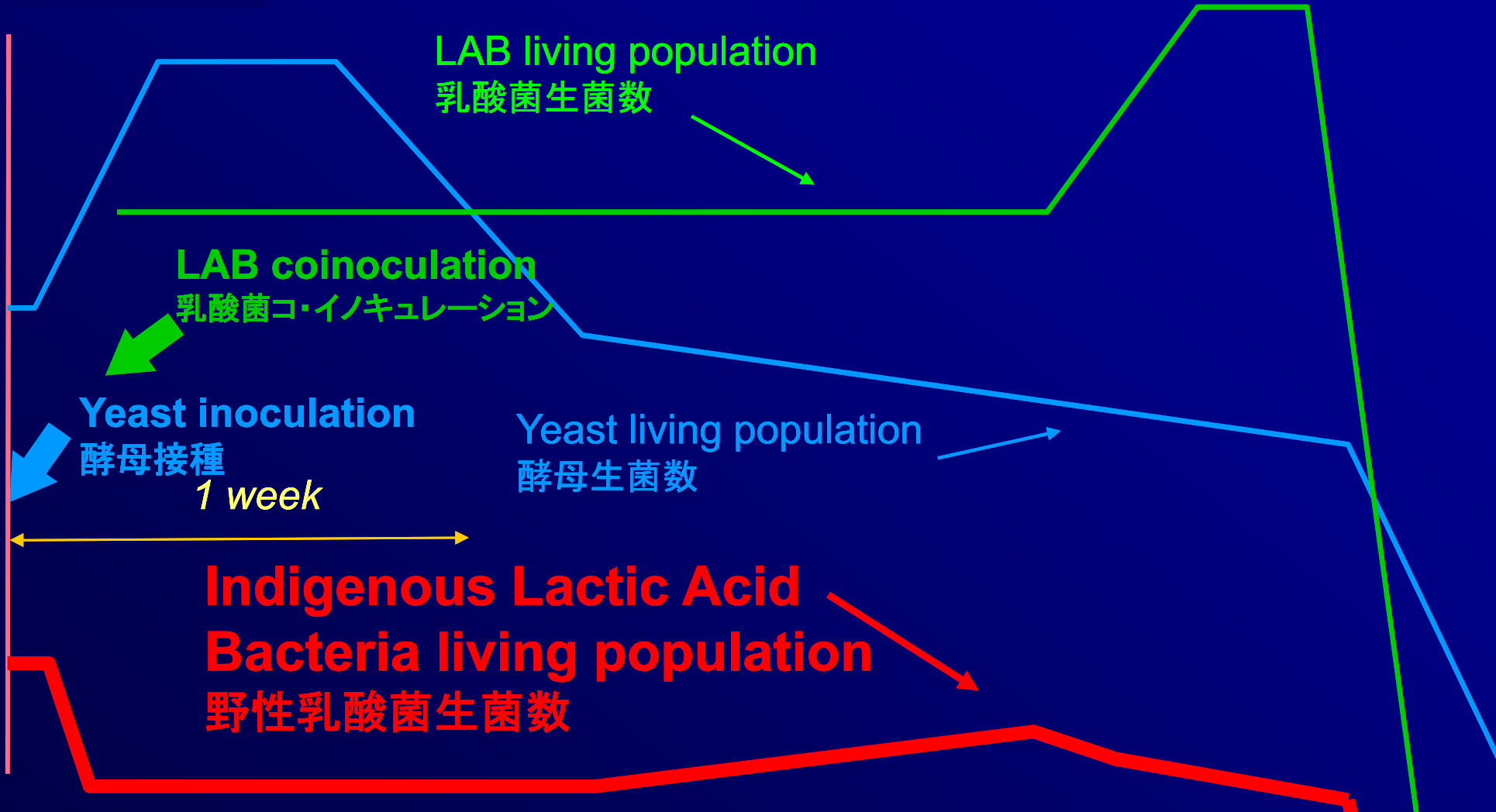


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Population curves during a co-inoculated yeast - bacteria fermentation

コ・イノキュレーション中の菌数推移

亜硫酸添加
SO2
addition

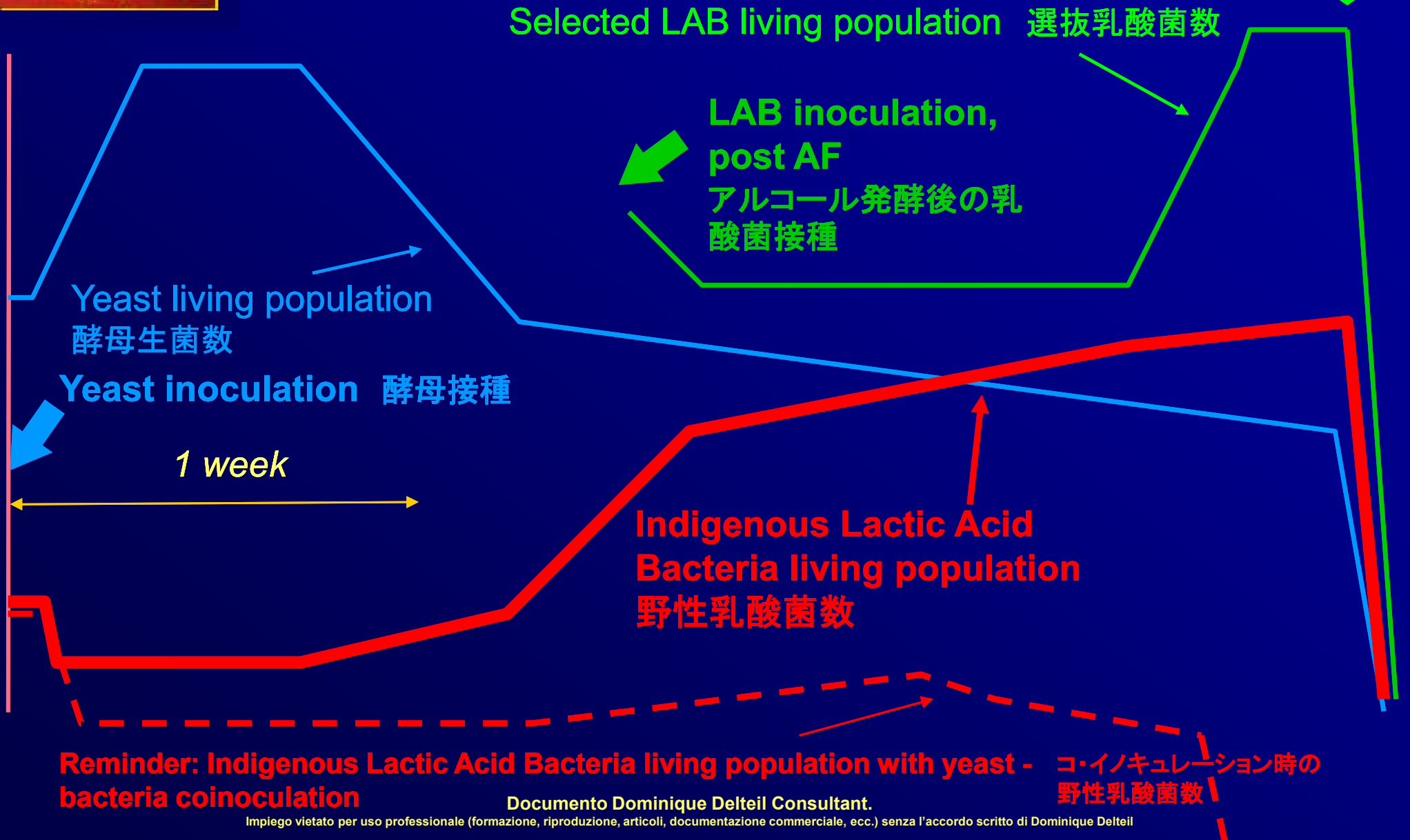


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Post alcoholic fermentation LAB inoculation : indigenous LAB

アルコール発酵後の乳酸菌接種：野性乳酸菌

SO2
addition





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Post alcoholic fermentation LAB inoculation : indigenous LAB

アルコール発酵後の乳酸菌接種：野性乳酸菌

SO2
addition

Selected LAB living population 選抜乳酸菌数

LAB inoculation,
post AF
アルコール発酵後の乳
酸菌接種

Yeast living population
酵母生菌数

Yeast inoculation 酵母接種

1 week

Indigenous Lactic Acid
Bacteria living population
野性乳酸菌数

Reminder: Indigenous Lactic Acid Bacteria living population with yeast - コ・イノキュレーション時の野性乳酸菌数
bacteria coinoculation

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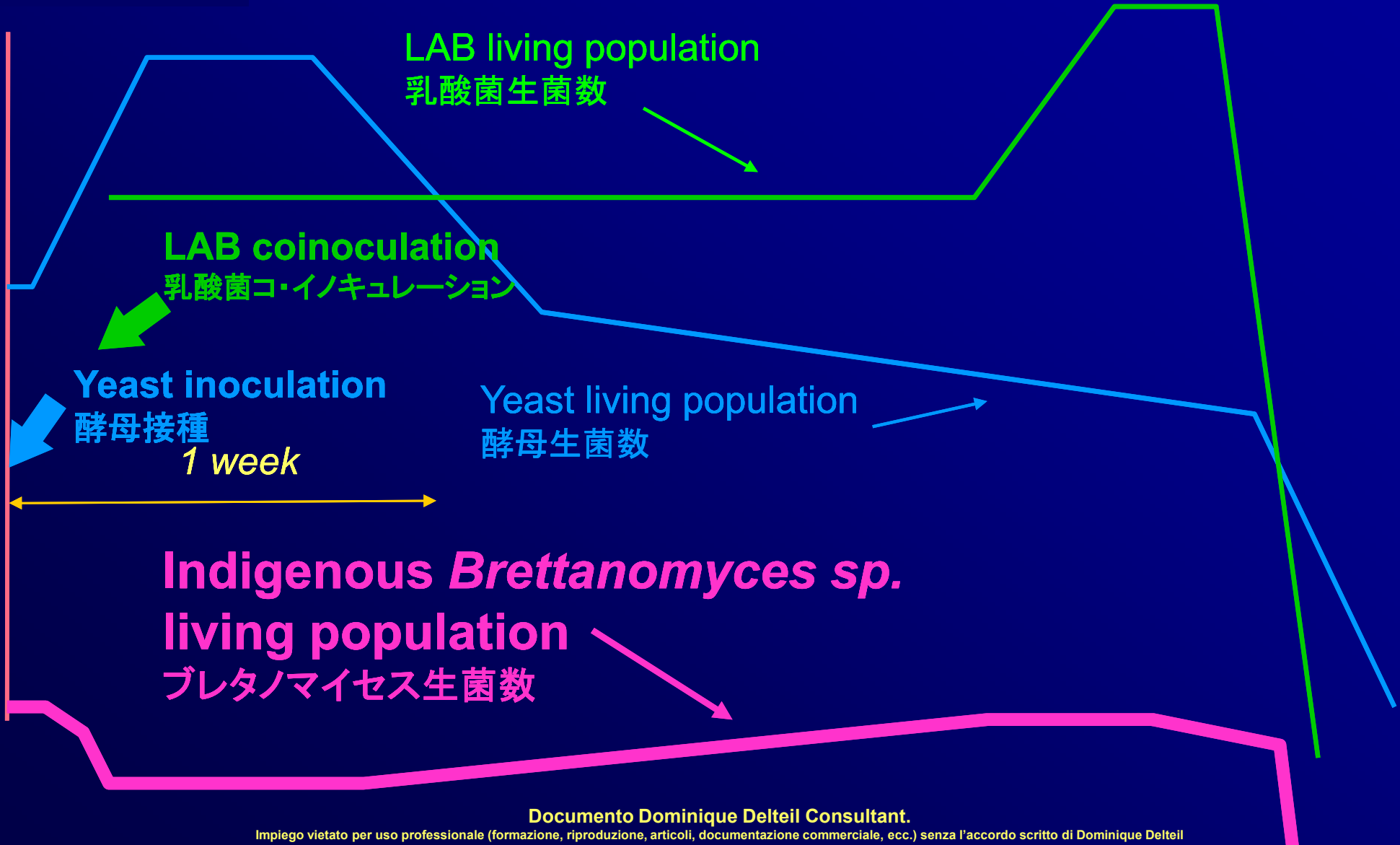
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Brettanomyces sp. population curves during a co-inoculated yeast - bacteria fermentation

コ・イノキュレーション中の
ブレタノマイセス菌数推移

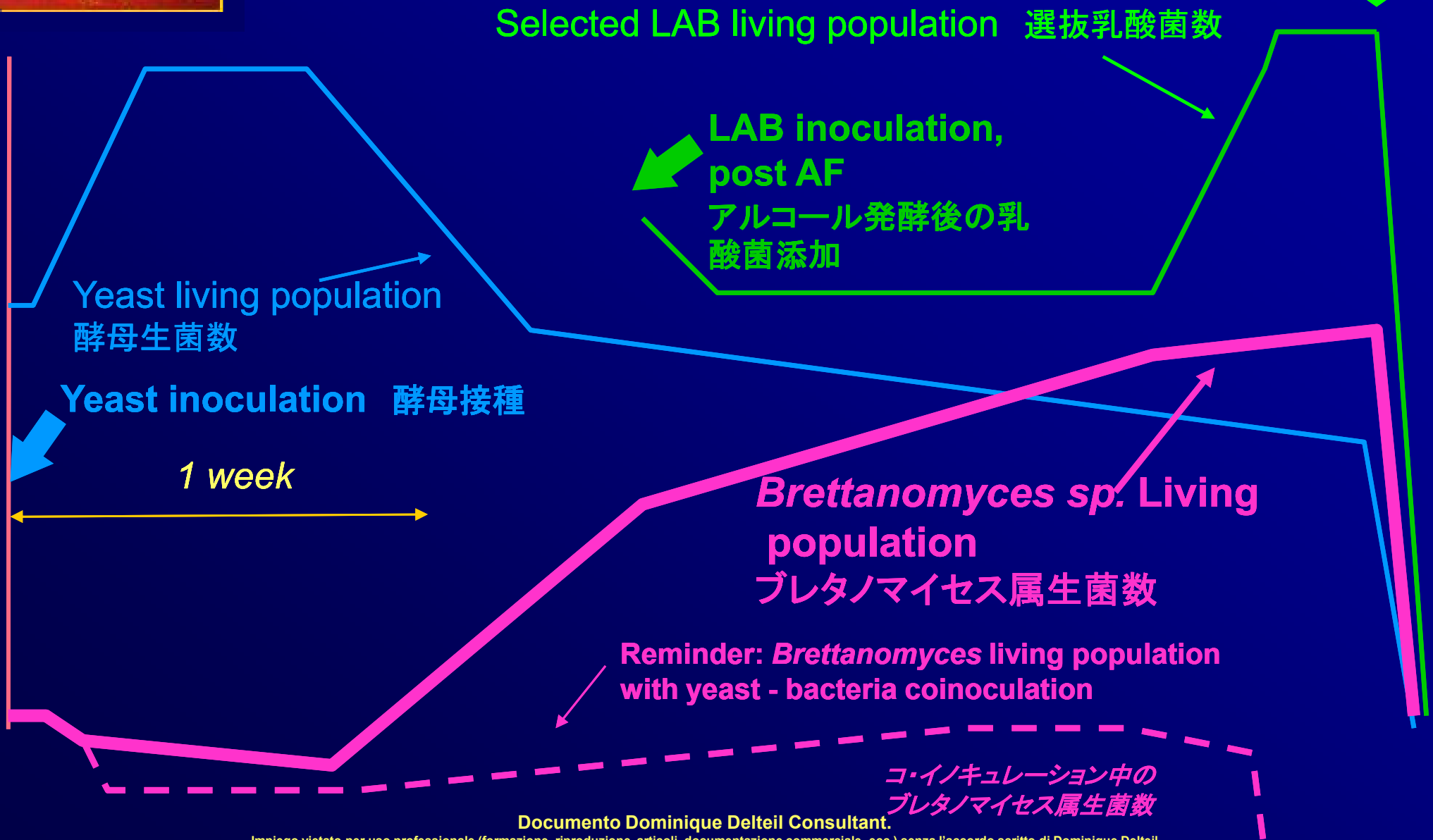
亜硫酸添加
SO2
addition



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Post alcoholic fermentation LAB inoculation: Brett ! アルコール発酵後の乳酸菌接種 ; Brett !

SO2
addition



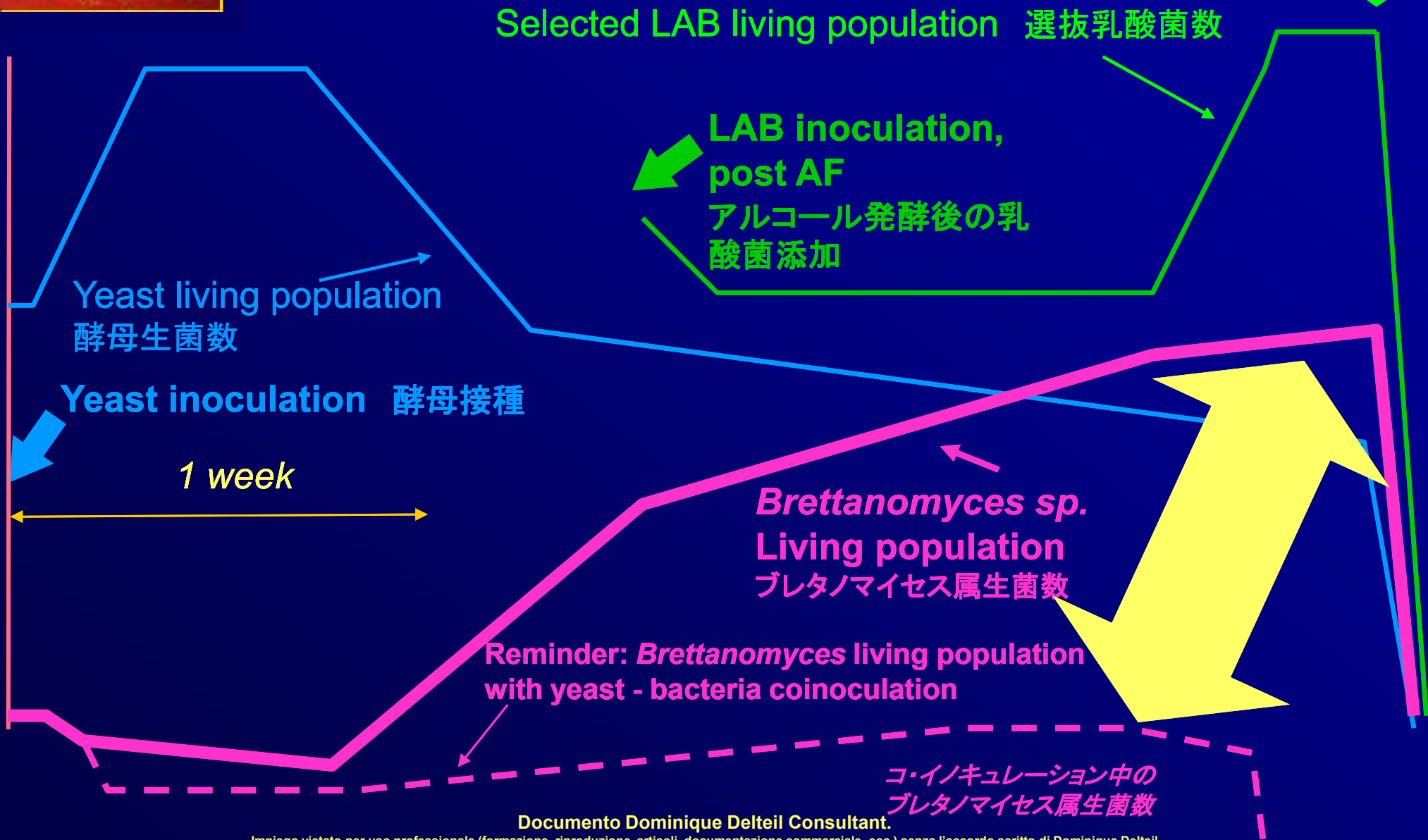
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Post alcoholic fermentation LAB inoculation: Brett ! アルコール発酵後の乳酸菌接種 ; ブレット !

SO2
addition

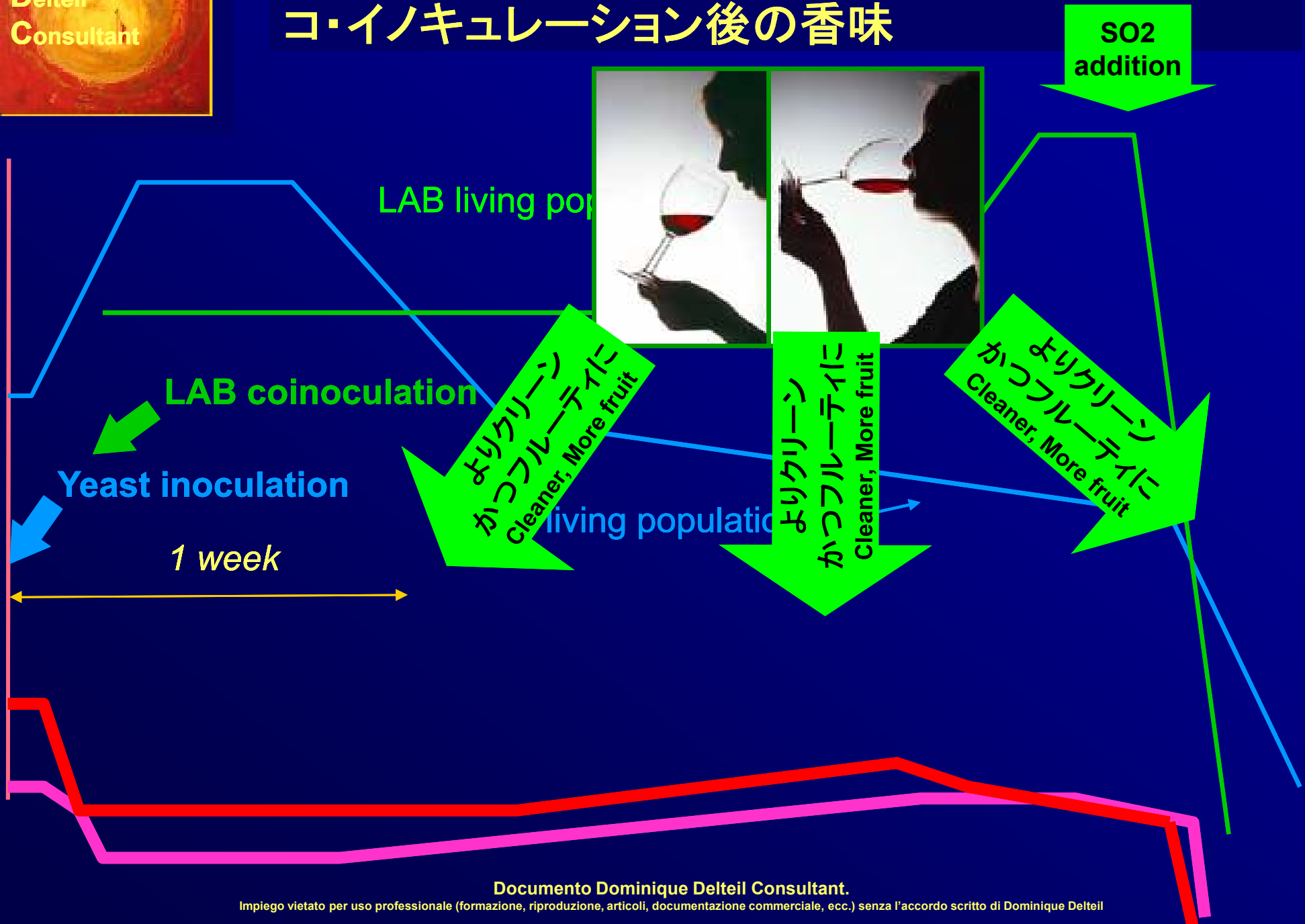


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As a sensory consequence, with coinoculation コ・イノキュレーション後の香味



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As a sensory consequence, with post-AF inoculation

アルコール発酵後に乳酸菌接種の場合、香味は？

SO2
addition

