THE STOMPER
The Monthly Winemaking Newsletter of grapestompers.com
August, 2001 Issue #13
http://www.grapestompers.com 1-800-233-1505

Welcome to the latest issue of "THE STOMPER", a newsletter of winemaking hints and other wine-related articles.

You are receiving this newsletter because you requested a subscription and have an interest in home winemaking. Unsubscribe instructions are at the end of this newsletter.

Feel free to pass along this newsletter to your winemaking friends; we only ask that it be sent in its entirety.

IN THIS ISSUE

^ Hot Tips are sprinkled throughout the newsletter

FEATURE ARTICLE: Help for Stuck Fermentations

By Brant Burgiss, Editor

You've picked all the fruit with care, extracted the juice, and pitched the yeast... but fermentation never starts, or worse, quits before it should!

What happened?

Unfortunately, you may have fallen victim to the dreaded "stuck fermentation" syndrome. So what do you do now? How did this dreadful situation occur in the first place? And how do you prevent this from happening again?

See our latest winemaking article about the causes, cures, and preventions of stuck fermentations here:

http://www.grapestompers.com/articles/stuck_fermentation.htm

*Warning: This long URL may wrap in some e-mail clients. If this happens, just copy the entire URL above and paste it in your browser's address bar.

We think this article provides some great information; don't miss it!

Here's to you... and Happy Winemaking!

You can write to Brant at webmaster@grapestompers.com

NEW PRODUCTS

Here is a list of products recently added to our catalog:

- Item # 2716 Wine Acid Test Kit $5.61
- Item # 2717 Sodium Hydroxide .10% normal 4 oz. $1.65
- Item # 2747 Elderberries, 4 oz. $3.52
- Item # 2746 TM Wine Conditioner, 32 oz. $7.31
- Item # 2700 Lalvin RC 212 yeast 5g Reg $.68 Sale $.61
- Item # 2710 Lalvin ICV D-47 yeast 5g Reg $.68 Sale $.61
- Item # 2780 Orange Soda Pop Base $3.76
- Item # 2781 Raspberry Soda Pop Base $3.94
- Item # 2786 Red Head Bottle Capper $10.91
- Item # 2787 Bottle Caps, plain gold, 144 count $4.32
- Item # 2715 Sparkalloid fining powder, 1 oz. $1.93
- Item # 2260 Floor Corker, Portuguese, nylon iris $57.75
- Item # 2370 Reusable/Stackable Bottle Cases $8.68

BONNIE'S BIN: Where Did The Time Go?
By Bonnie Brown, Manager

Where does the time go? I still have not started the Blackberry Merlot wine. That might be on the back burner for a winter project so it is ready for next summer! (I have not had the friends in for a barbecue yet either!)

All four flavors of our new light wines (Blackberry Merlot, Raspberry/White Zinfandel, Peach Chardonnay, and Kiwi Gewurtztraminer) have gone over quite well. The ladies seem to like them better than the men. Light and refreshing, where men seem to enjoy the "real" wines.

We have another request - can you help us? A winery we know is looking for software for keeping logs of the wines. Do any of you know of one that is good and fairly easy to understand and use? Let us know so I can pass along that information. THANKS!

We are starting to get feedback on what some of our winemaking friends are making for the October 7th wine tasting at the Bodega. Plum, blueberry, strawberry, and apple to name a few. I hope some of you are making the unusual ones that will pique the interest of other winemakers. Eyes go wide open when they hear pumpkin!!! Tea Bag!! CORN!!! Yes, you can make wine out of those! I hear it is interesting. . .

I do hope the heat is not getting to any of you. One customer said he can't get it cool enough no matter how low they turn the thermostat! Just think of how all of our grapes and fruits are doing. Hope all of the above do well in the coming weeks of "Dog Days" of summer.

Keep the wines happy and the makers will be happy too! Ya'll have a great August.

'Tis a wonderful day in the mountains. . . .

Life is too short... to drink bad wine... so make your own!

You can write to Bonnie at bonnie@grapestompers.com

THIS MONTH'S SPECIALS

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grapestompers' specials for the month of August 2001 are:

Save 10% on our Peach/Chardonnay Wine Kit

AND

Save 10% on ALL Lalvin Wine Yeasts in stock

AND

Save over 10% on our Yeast Nutrient

AND

Save over $70 on the purchase of a
Complete Winemaking Starter Kit
which includes a RED or WHITE Concentrate
(see wine kit selection below)

Item #	Description	Regular Price	SPECIAL Price
3280	Peach/Chardonnay Wine Kit	38.41	34.57
2733	Yeast Nutrient (Fermax)	2.23	1.99
2700	Lalvin RC 212 Wine Yeast	0.68	0.61
2707	Lalvin EC-1118 Wine Yeast	0.68	0.61
2708	Lalvin 71B-1122 Wine Yeast	0.68	0.61
2709	Lalvin K1V-1116 Wine Yeast	0.68	0.61
2710	Lalvin ICV D-47 Wine Yeast	0.68	0.61
3200	Complete White Starter Kit	246.68	175.00
3100	Complete Red Starter Kit	259.79	185.00

Here's what you get with the COMPLETE Starter Kit:

If choosing the Complete WHITE Kit, your choice of either:
Fume Blanc, Piesporter, or Chenin Blanc VDV concentrate

If choosing the Complete RED Kit, your choice of either:
Valpolicella, Shiraz, or Cabernet/Merlot VDV concentrate

PLUS ALL THESE GOODIES:

Tom's Winemaking Video	Bottle Rinser
Fermenter Bucket with lid	Three-Piece Airlock
6-Gallon Glass Carboy	Carboy Brush
Bung (stopper)	Bottle Filler
Five feet of vinyl tubing	B-Brite Sanitizer
Portuguese Hand Corker	FermTech AutoSiphon
2 Cases of 750-ml Bottles	Spoon or Paddle (our choice)
Bottle Washer Adapter	Brass Bottle Washer
Bottle Drainer, 45 station	

AND YOU GET THE FOLLOWING ITEMS FREE ($16.59 value):

- Free Wine Labels (text of your choice)
- Free $5 coupon towards your next concentrate purchase
- Free Corks (30 corks, enough for one batch)

Just think: This complete kit offers EVERYTHING a brand-new hobbyist would need to begin making his own wine. All you need to decide is which wine kit you want!

And don't forget... you can always return your winemaking video and receive a credit for $19.95 on your next purchase... that's like getting the video for free! All we ask is that you return it in good condition.

This is the best deal we've ever offered on a complete kit, so don't miss out... order one for yourself or a friend today. Ask for RED Complete Kit # 3100 or WHITE Kit # 3200 and be sure to let us know which wine concentrate you want.

NEW! Now you can "personalize" your Complete Kit -
Let's say you don't need or want some of the items that normally come with the Complete Kit... just give us a call at 1-800-233-1505 and let us know which items you don't

need, and we will adjust the price of the equipment kit accordingly. Likewise, if you'd like a different wine kit, just let us know and we can adjust the price.

TOM'S CELLAR: Traveling the Globe in Search of Wine
by Tom Burgiss, Owner

Editors Note:

Tom is currently on a winemaking research trip to New Zealand and Australia, looking for new sources of grape juices and concentrates, as well as updated techniques and winemaking equipment.

----------HOT TIP----------
Check your specific gravity (S.G.) each day during primary fermentation. You'll be able to react more quickly to problems such as stuck fermentations.

Have a tip you'd like to submit?
Send it to tips@grapestompers.com
----------HOT TIP----------

I'm sure we'll all benefit from his adventures and experiences. We can hardly wait to hear his stories!

Look for Tom's next article in the September issue of The STOMPER.

You can write to Tom at tom@grapestompers.com

FROM OUR CUSTOMERS

As you might imagine, our office receives quite a bit of correspondence - mostly through e-mail - here are some comments we've recently received:

Hey Tom,
Thanks for responding so quickly. I forgot about the [free] wine labels; 'Martha's Cellar' sounds great. I usually make my own, so this will be a nice change.

I've been brewing beer and making wine for about 3 years now, and I love it (and everyone else loves to drink it). I don't seem to be able to make it fast enough, I haven't been able to age any wine like I would like to, [and] I never had enough equipment.

I was purchasing my supplies at a store nearby; unfortunately they closed their doors about a month ago.

I have been subscribing to your newsletter since last August, [and] since my local store is no more, I thought it was about time that I stop being a voyeur, and become a customer. I enjoy your newsletter and love your web site. I'm looking forward to continuing to do business with you.

Thanks,

-- Martha Majewski
Phoenixville, PA

Thanks Bonnie,
I really appreciate the great service I've gotten from Grapestompers, and the wine.... :-)

-- Hal Wolfe
Peachtree City, GA

This was in response to letting a customer know her order was on the way:

Dear Bonnie,
WONDERFUL, now I can buy my peaches this weekend!! :0)
You guys are great!!! I LOVE my new hobby!!!!!!!

-- Amy Daihl
Roxbury, PA

GUEST COLUMN - The Use of Sulphur Dioxide in Winemaking
by Charles Plant, Vancouver, BC
PART ONE of TWO

When Nature ferments grapes, or any other fruit for that matter, wine is not the end product. Instead, unpleasant concoctions containing vinegars, mercaptans and other substances are formed, with the final end being water and assorted solids and gases. Although most good winemaking involves interfering with Nature as little as possible nonetheless we need to steer her a bit, and in fact completely stop some natural processes at just the right moment.

An indispensable ally of the winemaker in achieving these things is sulphur dioxide. We will refer to it by its chemical formula, SO2. In this article we will be investigating how to use SO2 to do the following things for us: inhibit wild and spoilage yeasts and unwanted bacteria (this can include the malolactic bacteria at sufficiently high SO2 levels); help prevent oxidation and preserve fruity flavour and freshness in wine.

SOURCING SO2

SO2 is a pungent, choking gas which is somewhat soluble. The most practical source for the home winemaker is the salt, potassium metabisulphite, which is 57% SO2. Since you can detect SO2 when you smell a sample of potassium metabisulphite it is evident that the solid decomposes easily. This happens on contact with carbon dioxide and moisture in the air. Keep your container of potassium metabisulphite tightly closed to minimize this problem. In any case, you probably shouldn't keep the stuff around for more than a year before buying fresh.

"Campden" tablets are made of potassium metabisulphite. Each tablet, when fresh, contains 0.44 grams of it. However, if they are old, a lot of the SO2 will have been lost and their effects will be unreliable. You're better off to use bulk potassium metabisulphite. It's cheaper too.

Sodium metabisulphite is also a source of SO2 but probably should be used only for equipment sterilizing purposes, not in must or wine. For one thing, many people avoid sodium in their diets, for another, the presence of potassium ions in wine is more useful than sodium.

Sometimes an old fashioned winery will burn a sulphur stick in empty barrels to keep them sterile. Under no circumstances should the home winemaker ever do this. The presence of any elemental sulphur, such as might drip into the barrel will lead inevitably to the formation of the dreaded hydrogen sulphide. In the winemaking business, -ite sulphur compounds are friendly, -ides are deadly enemies.

Under a very few circumstances, solid potassium meta-bisulphite may be used directly. For instance if you decide to add SO2 to red grapes before crushing, a scant one-quarter teaspoon sprinkled on a 36 pound lug of grapes will give you about what you need — somewhere around 30 to 40 parts per million SO2.

Don't do this with white grapes or when using red grapes to make a rosé. When you press, the SO2 will wash off into the juice in uncontrollable amounts and you will likely have far too much in the free run, and next to none in the pressed portion.

THE 10% SOLUTION

A much better way to get your SO2 is from a 10% solution of potassium metabisulphite in water. For instance, you could add water to 1 pound of potassium metabisulphite to make a total volume of 1 imperial gallon. Or, if you prefer metric, add enough water to 100 grams of potassium metabisulphite to make up a total volume of 1.00 litres. Fresh 10% solution is 5.7% SO2.

A commonly used unit of measurement for SO2 in must or wine is "parts per million" or "ppm". 1 ppm is the same as 1 milligram per litre. I will use ppm.

For example, if you add 2.4 millilitres of 10% potassium metabisulphite solution to 1.0 imperial gallons of wine you will be adding 30 ppm SO2. If you have a 19.2 litre carboy to which you wish to add 20 ppm SO2, multiply 0.35 by 19.2 to get an SO2 addition of 6.7 mL of 10% solution. Consider making up your own spreadsheet giving SO2 additions for your own sizes of barrels and carboys.

PUTTING SO2 TO GOOD USE

You might hear a commercial winemaker tell you that she "doesn't use any SO2 at all until after the primary ferment is complete, particularly with white wines." Such a winemaker knows the complete history of her grapes — exactly where they came from and how they were handled. She undoubtedly also has elaborate handling equipment — must coolers, inert gas covered tanks and all the rest. You should know a lot about what you're doing before you decide to postpone adding SO2 until some middle point in the winemaking process.

Let's start with red grapes. You need to suppress any bacteria and wild yeasts they may have picked up, prior to inoculating with a selected yeast culture. If you try to depend on wild yeasts, they will likely die before all the sugar is fermented out, leaving you with a sticky problem or worse. Vinegar bacteria can produce an undesirable amount of ethyl acetate in the early part of the fermentation if not checked.

You probably bought the grapes by the pound and can assume around 5 litres of finished wine from each 20 pounds. Addition of 2.7 millilitres of 10% potassium metabisulphite solution for each 20 pounds works out to 30 ppm SO2. If the grapes are in reasonable shape, this should do the job for you. If your grapes are in perfect shape and the pH is low enough, you can do with less. We will deal with pH considerations later.

If you are planning to have a malolactic ferment, or ML, happen at the same time as the sugar ferment, don't add the ML culture until the sugar ferment is well underway. By that time enough of the SO2 will have gone so that the

ML bacteria can multiply and flourish. Alternatively keep your SO2 addition down to, say, 20 ppm. We'll talk more about ML when we discuss white wines.

If you are concerned about excessive mould, possibly accompanied by traces of vinegary smells, increase the SO2 addition to 50 or 60 ppm or in extreme cases even more.

The SO2 you add will also lead to production of small quantities of glycerol in the early part of the ferment. This is generally desirable.

When you make white or rosé wine the situation is a bit different. Grape skins contain phenols. These add flavour and colour to wine. They can also contribute astringency, bitterness and browning. These things are of more concern in whites and rosés than in red wines.

----------HOT TIP----------

I recently found using a semi-strong degreaser like "Castrol Super Clean" a cleaner/degreaser and hot water to soak the bottles for about 15 minutes.

Then I used a putty knife to remove the paper; it just peeled off. I then used a stiff plastic bristle brush to scrub the remaining glue. It all came off very easily.

I would assume any degreaser/cleaner would work, and would also suggest you use rubber gloves; it would be murder on your hands.

I then store the bottles until it is time to wash and sanitize just before bottling.

Our thanks to Bob Myers from Clemmons, NC for this tip.

Have a tip you'd like to submit?
Send it to tips@grapestompers.com

----------HOT TIP----------

SO2 can contribute to phenol extraction from the skins and this is another reason it shouldn’t be added to a white or rosé until after the pressing has been done. However, the addition should be made promptly since white must quality suffers from oxygen absorption from the air. As soon as you have pressed, you have an accurate measure of your yield and can thus calculate the SO2 addition more precisely.

HOW MUCH SO2?

How much to add depends on a number of factors. What was the condition of the grapes? What is the pH? (We shall see later, how SO2 is more effective at lower pH). Are you planning on putting the wine through a malolactic ferment? Is the juice intended for making a champagne method sparkling wine?

30 ppm SO2 for juice from sound fruit with a pH of 3.4 or so, and destined for a regular wine should be fine.

If you hope to have a malolactic ferment happen along with the sugar ferment, you likely have a higher acid Chardonnay, or something, say around pH 3.2. Smaller SO2 additions are okay here — say 20 ppm. Malolactic bacteria won't work at levels higher than around 15 ppm, but by the time you add an ML culture, much of the SO2 will have been used up.

Juice destined for Champagne method wine will probably have a low pH, close to 3.0, say. You are going to want to have a malolactic ferment occur. If the grapes were perfect, you might get away with no SO2 at all until the first racking. This however is a bit nerve-wracking, like having a tooth filled without anaesthetic. The danger of some undesirable oxidation of the must is there, so better to go with 10 ppm SO2 or so.

At the other end of the scale, juice from grapes with a lot of mould, possibly with some vinegary smells, should have 50 to 60 ppm SO2 or even more added. Who knows – maybe you have lucked on to some botrytised Riesling or Semillon and plan a serious dessert wine. Botrytised grapes may require 100 ppm SO2 or even more for adequate protection.

How about frozen or sterile packaged musts? With white or rosé juice, you can either trust the shipper to tell you how much SO2 was added, or you can test and make additions accordingly.

It is difficult to test reds for SO2, because the red colouring matter interferes with the chemical reaction involved in the test and also makes it difficult to see the colour change involved. You pretty well have to trust the information on the shipping label. The fact that testing reds for free SO2 is difficult makes it imperative that you keep an accurate record of all SO2 additions in order to be able to estimate the situation at any given time.

The next time you are going to consider adding SO2 to the wine is at the first racking. In most cases, this will be after the sugar fermentation is complete and the new wine is dry.

If you want to stop active fermentation to retain residual sugar, don't try to use SO2 as your main tool. A vigorous ferment of a strong yeast will laugh at you and carry right on to the end. Selected combinations of racking, fining, chilling and filtering are the way to go. SO2 will be involved, but only as it would be normally used in conjunction with these other processes.

STIFLING OXIDATION

An important reason for adding SO2 when you rack is to avoid oxidation. It does this in three main ways.

When you smell a wine that is oxidized, the chemical you are smelling is acetaldehyde. SO2 combines with acetaldehyde to form a stable compound.

When there is oxygen around, SO2 itself becomes oxidized before phenol compounds in the wine do, and so acts as an oxygen scavenger.

SO2 suppresses the activity of enzymes that cause browning and other problems.

So, when you add SO2 it doesn’t all hang around. Lots of it gets used up doing these various jobs for you and becomes "bound". The remainder remains "free". The bound portion consists of two parts. One part is made up of irrevocably bound compounds with aldehydes and proteins. The other part is made up of less stable compounds. These can partly turn back to the free form when the existing amount of free is lowered, or even if temperature is increased. This free portion also consists of two parts: one is relatively inactive bisulphite and the other, smallest of all the segments, is molecular SO2. This is the crucial active

portion and its size depends both on pH and the total amount of free SO2.

It is worth noting at this point that in the early stages of a wine, when the total SO2 additions are less than 50 ppm or so, roughly half of further additions remains free and half immediately becomes bound. Later, when total additions are above about 60 ppm, most of any further addition remains as free. This knowledge gives us further reason to keep good records of SO2 additions, particularly in the case of reds, where direct measurement of free SO2 is not reliable.

ABOUT THE AUTHOR - Charles Plant has been making wines since 1966, when he crushed his first grapes (Zinfandels) from California. Since that time, he has experimented with just about every kind of basic winemaking ingredient known, and virtually every style of wine. He now works pretty much exclusively with grapes, fresh or frozen, from the Okanagan Valley of British Columbia; from Washington, Oregon and California - including Napa and Sonoma Valleys.

He joined the Vancouver Amateur Winemakers Association in 1967, and helped found The British Columbia Amateur Winemakers Association in 1972. He is a past President of The Amateur Winemakers of Canada.

Over the years he has enjoyed some success in competition in these and other organizations. Lastly, he helps with the production of "The Grapevine", a newsletter serving the amateur winemaking hobby in B.C.

You can contact Charles at cplant@dowco.com

Be sure to check out the home page of the British Columbia Amateur Winemakers Association at: http://members.home.net/bcawa/

See PART TWO of Charles' SO2 article next month!

How To Be A Guest Columnist For STOMPERS Newsletter

If you'd like to be our next guest columnist, simply send your three- or four-paragraph article to articles@grapestompers.com. If your article is selected for use in a future STOMPER newsletter, you'll receive the attention of thousands, a coupon good for a discount on your next grapestompers.com order, as well as our heartfelt thanks. So what are you waiting for??

CORKY'S WINEMAKING DEFINITION

Stuck Fermentation
- An undesirable condition where fermentation fails to begin, or has stopped before all the sugar has been converted to alcohol and CO2.

Look for other wine-related definitions by clicking on the 'Glossary' button from our home page at http://www.grapestompers.com

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NEXT MONTH'S HIGHLIGHTS

- More Winemaking Stories from Tom's Cellar
- Another Surprise from Brant
- More Specials

- The next article from Bonnie's Bin
- Part Two of Charles Plant's article about sulphur dioxide
- More Customer Testimonials
- New Winemaking Products

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