



The Barleycorn Press

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May 2006

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Protein Rests by Lew Greitzer

What is a protein rest? Do I need one (or more) and if so for how long and at what temperature? A protein rest is basically a mash rest from 103 °F to 140 °F (39.4 °C to 60 °C) which activates various proteinases (enzymes that break the peptide bonds between amino acids of proteins in a process called proteolytic cleavage).

During a mash rest between 103 °F to 122 °F (40 °C to 50 °C), the naturally occurring proteolytic enzymes that are created during the rest degrade the proteins in the grains into forms of protein which improve the quality and fermentation characteristic of your beer. Yeast requires amino acid proteins as nutrients. During this cooler half of the protein rest, these enzymes become active and break down nitrogen based proteins into amino acid proteins providing nutrients for later use by the yeast. These nutrients (primarily free amino nitrogen) are very significant in developing a hearty yeast and increasing its ability to ferment and convert fermentable sugars into alcohol and CO₂, leading to greater attenuation of your wort. The temperature of the mash is then raised to between 122-140 °

F (50-60 °C), which activates other proteolytic enzymes that break down proteins that might otherwise cause your beer to be hazy. Care must be taken since the head on your beer is also composed primarily of proteins, so too aggressive a protein rest can result in a beer that cannot hold a head.

Modification in malt is the term that describes the extent to which the protein-starch matrix has been broken down during the malting process. Moderately-modified malts benefit from a protein rest to break down any remnant large proteins into smaller proteins and amino acids. Fully-modified malts have already made use of these enzymes and do not benefit from more time spent in the protein rest. In fact, using a protein rest on fully modified malts tends to remove most of the body of a beer, leaving it thin and watery. Most malt in use today is fully modified. It is possible that brews that use less modified malts that go through a protein rest may have the benefit of a fuller, maltier flavor.

Malted barley contains amino acid chains which form the simple proteins needed by the germinating plant. During fermentation, these proteins are utilized by the yeast for growth and de-

velopment. The two main proteolytic enzymes responsible are peptidase and protease. Peptidase works to provide the wort with amino acid nutrients that will be used by the yeast. Protease works to break up the larger proteins which enhances the head retention of beer and reduces haze. In fully modified malts, these enzymes have done their work during the malting process.

To apply this information to your brewing, maybe try an experiment. Generally, I tend to use the most highly modified malt I can get. Next batch maybe try a less modified malt with a two-step protein rest (20 minutes at 122 °F then infuse to bring the mash temperature up to 122 °F and hold there for 20 minutes). This just might produce a fuller, maltier beer with a full, creamy head, with just a slight change in your mashing procedure.

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NEXT MEETING

**Monday, May 1
Jim Silvia and Melissa
Levy's, Hinesburg**

The next meeting of the Green Mountain Mashers will take place on Monday, May 1 at Jim Silvia and Melissa Levy's in Hinesburg.

Agenda

- 1) Competition update
- 2) Discussion of the New England Homebrewer's Jamboree
- 3) Next mtg reminder
- 4) Old Business
- 5) New Business

Melissa and Jim live at 345 Billings Farm Road in Hinesburg.

Directions from Burlington

Take VT 116 South towards Hinesburg. You will come to RT 2A; stay on 116. At the intersection of 2A and 116 you are approx 1 mile from our road. You will see a scrap metal yard on the left; Our road is the next left BILLINGS FARM RD.

Directions from Richmond

Take Hinesburg RD into Hinesburg. Follow Hinesburg RD to CVU RD. Make a right onto 116 from CVU RD. Our road BILLINGS FARM RD is approx 1/2 mile on the right. It comes up quick as you start to go down a

hill on 116. If you reach RT2A you have gone too far.

Once you are on Billings Farm Road

Drive to the very end of the dirt road and past the sign that says "Ledges -- Private". Our house is at the top.

Call (802) 482-7400 if you need additional directions.

Club Brew Update By Jim Silvia

The Club Brew from November 7, 2005 is ready to taste at the upcoming May meeting at our house. The recipe for the Strong Bitter/English Pale Ale follows:

16 lbs. Pale 2-Row
2 lbs. Crystal 40 L
1 lbs. Special B
2 oz. Caramunich
6 oz. Perle 7.1% BOIL 60 minutes
2 oz. Amarillo 7.8% BOIL 15 minutes
2 oz. Amarillo 7.1% Finishing 0 minutes
4 tsp. Irish Moss

Four different yeasts were used in 4 different 5-gallon batches. The yeasts used were a Repitched lager yeast from Anne Whyte, a dry yeast, a Wyeast London liquid yeast, and a Northwest liquid yeast.

Staff Box



The Barleycorn Press is a monthly publication of the Green Mountain Mashers Homebrew Club. The Barleycorn Press appears in the final week of each month. **Contributions are due by the 25th of the month of publication or two Thursdays prior to the next meeting (which ever comes first).** Please send contributions via e-mail (preferable) or send on a 3.5" IBM compatible diskette (hard copy as a last resort) to:

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345 Billings Farm Road,
Hinesburg, VT 05461
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Contributions on any subject even remotely associated with the brewing and/or enjoyment of beer and related beverages are happily accepted by the editors. The editors reserve the right to edit any contribution as a function of available space, while making every attempt to maintain its integrity. The views expressed by contributors to the Barleycorn Press are not necessarily those of the editors or of the Green Mountain Mashers Homebrew Club.

This publication is made available free of charge to all dues paying members of the Green Mountain Mashers. Subscriptions are available to all other interested parties at \$7.00 yearly (US funds).

Note: The yearly dues of \$20 should be paid by the end of January. Please mail your check or money order made out to the "Green Mountain Mashers" to Treasurer Anne Whyte at the following address:

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10 School St.
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(802) 879-6462 (hm)
(802) 655-2070 (wk)
vtbrew@together.net

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View the Official Web Page of the Green Mountain Mashers at:

<http://www.mashers.org>

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Green Mountain Masher Calendar of Events

Date	Event	Information
4/28/2006	Entry Deadline for Green Mountain Masher Competition	Dave Blumenthal, dave@studiozoic.com
4/29/2006	Entry login and sorting for competition at Rich Frog	Dave Blumenthal, dave@studiozoic.com
5/1/2006	May Meeting—Jim Silvia and Melissa Levy—Tasting Club Brew	Jim Silvia and Melissa Levy, (802) 482-7400 or jimmel@silvia.net
5/3-6/2006	New England Real Ale Exhibition—Somerville, MA	http://www.nerax.org/
5/13/2006	Green Mountain Masher Competition—9 am—McClure Senior Center, Burlington	Dave Blumenthal, dave@studiozoic.com
5/31-6/4/2006	Mondial de la Biere—Montreal, Quebec	http://www.festivalmondialbiere.qc.ca/
7/21-22/2006	Vermont Brewers Festival—Burlington	http://www.vermontbrewers.com/festival.html

Please contact Melissa at 482-7400 or melissa@vt.bitxbit.com to add items to the Masher Calendar

Green Mountain Mashers Dues have been raised to \$20 per year to help cover the added costs of being a non-profit corporation. Dues are due ASAP. Please bring your checkbooks to the next meeting so that we don't need to keep pestering members to pay their dues.

Also, please bring beers and some munchies to the next meeting to share with the rest of the Mashers.

Masher Competition Update By Dave Blumenthal

The Green Mountain Mashers are pleased to announce that the 15th Annual Green Mountain Homebrew Competition will be held May 13th, 2006. This annual event attracts the finest brews from around the northeast. Submit your best and see how they stack up!

This is an AHA sanctioned and BJCP registered event and we'll be using the 2004 BJCP Style Guidelines to judge all beer, cider, and mead categories. Please refer to <http://www.bjcp.org> or www.mashers.org for style descriptions and numbers. Win first, second, or third place! The Best of

Show will be selected from first place beers (not cider and mead). Vermont Homebrewer of the Year will also be awarded. Yet again the Vermont Pub and Brewery will be our major sponsor. VPB Brewmaster Greg Noonan will select a Vermont brewed beer from the Best of Show round to receive the Brewers Cup. That fabulous beer will be brewed and put on tap at the Pub. First, second, and third place finishes will count towards the NEHBOTY (New England Homebrewer of the Year), New England Meadmaker of the Year, and New England Cidermaker of the Year points competitions.

The competition will be held at the McClure Multigenerational Center,

241 N. Winooski Avenue in Burlington. Directions can be found on our website: www.mashers.org.

The entry deadline is Friday, April 28, 2005. To enter beers, see http://www.mashers.org/comp_2006/comp_page1.html and click on FORMS for the necessary paperwork.

If you wish to steward, please contact **Steward Coordinator:** Darell Whitaker 446-4592
darell@us.ibm.com.

If you wish to judge, please contact **Judge Coordinator:** Dave Clark 434-2060
DAVEC@wpgate1.ahs.state.vt.us

April Meeting Minutes By Ernie Kelley

The annual Hoops n' Hops gathering, hosted as usual, by Tom Ayres and Anne Barrett, was called to order by President Tim Cropley at sometime around 8:00 p.m. The main order of business for the night was basketball and the Masher Challenge. First, however, came the obligatory tasting of beer. Why else do we meet?

The second agenda item was an update on the competition by Competition Czar Dave Blumenthal. The competition is May 13 at the McClure Senior Center in Burlington. The entry deadline is April 28. Sorting and logging of the entries will take place at Rich Frog in Winooski the following day, April 29 at 9:00 a.m. Help with non-Chittenden County entry delivery

was requested. Ruth Miller will pick up entries in Maine, Monk will collect from areas of lower New York. Entries, with money, but without the beers will be accepted; however the beers must be at Rich Frog in time for the log in. No entries will be accepted on the day of the competition. Flights of beers will be pre-judged as necessary. Volunteers for the support jobs was solicited next. Anne Whyte and Monk volunteered to follow-up on the food issue. Anne is still in contact with the caterer from last year's competition and will contact him again, and Monk knows Greg Noonan's former roommate, who is also a chef, and will contact him. Jerry Gormley was volunteered in his absence (Jerry- it pays to show up!) to be the Sponsor Guru. Dave Blumenthal said that he would actually ask Jerry if that was OK, but then Ruth volunteered to take on that job. Darryl is Head Steward, and Dave

Clark will serve once again as the Judge Coordinator.

At this point of the meeting, your sometimes Secretary left the business meeting to judge entries in the Masher Challenge, and I have no idea what transpired for the remainder of the "formal" meeting. The style of the year was Irish Red Ale. There were ten entries. Third place went to Tom Ayres, second place to the team of Jerry Gormley and Tim Cropley, and the winner (again, this time with a creation of his own making) was Rich Evans – The Monk. A promise was extracted from Monk, under threat of making him judge next year's entries alone, that he would not pick a habanero/pumpkin/tomato lager as next year's style. Then everybody went back to drinking more beer and prepping for the b'ball game.



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