Sharpeners and steels in a real life kitchen

Posted by RogerHerbst - 02 May 2012 13:44

As a home cook, I have an interest in knife sharpening. I very much appreciate your well documented and scientific approach to sharpening...especially your microscope pics.

After getting all my knives to a polished razor edge, the joy of razor sharp slicing gives way to the reality of preparing daily meals. After a week or two, I re-examined the blades of my go-to knives (I have a $20 USB microscope, which is nowhere near the quality of yours, but is still a very helpful tool). Not surprisingly, there were nicks and edge-rolls. So comes the question - do I pull out a sharpening setup or give it a few strokes with a steel ?

The popular wisdom of a steel simply straightening the edge is complete BS from what I've seen. Mine aggressively removes metal, my angle control is imprecise and the previous precision angle-controlled polishing is pretty well torn up. That said, there is an improvement in cutting ability (though not as good as freshly sharpened), it's quick and easy, and looks cool in front of dinner guests.

It would be great to see an analysis of what sharpening steels really do, with recommendations on when and how to use (or not) in a real world kitchen.

Roger

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Re: Sharpeners and steels in a real life kitchen

Posted by wickededge - 11 May 2012 09:54

You guys are awesome! Thanks again for all the fascinating info and history. I love this forum, thanks for making it great!

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Re: Sharpeners and steels in a real life kitchen

Posted by RogerHerbst - 18 May 2012 16:37

Here's a follow up on smooth steels.

I received a Victorinox "smooth" steel, and tried it on a couple of knives. They immediately seemed duller ! A look at the steel even with the naked eye showed a substantial surface texture, with the texture running across the rod (instead of with it, as in a normal grooved steel). So out came the microscope.

Here's a picture of a freshly honed blade, with a hair for reference:

Here's a picture of the surface of the Victorinox "smooth" steel - same magnification as above

Here''s the blade after a few light strokes with the "smooth" steel. Note the roughed-up edge. So disappointing !!!

Conclusion: If you're looking for a smooth steel, this isn't it ! I'll return it and try a "F. Dick" steel, as PhilipPasteur mentioned in his post on this topic.

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Re: Sharpeners and steels in a real life kitchen

Posted by PhilipPasteur - 19 May 2012 12:16

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Great pictures. Objective evidence of what is going on with these steels is good stuff.

Remember, being a proud member of the sharpening OCD club, I took my "F. Dick" steel and put it on the buffer using 5 different grits and ending with red jewelers rouge before I used it. I am not sure this was required, but I was looking for a "mirror" finish, and I got it pretty darn close. In any case, I know it was much smoother than when I started!

One other thing I always think about is pressure when steeling. Because of the curvature of the steel, any force applied to the knife edge ends up being higher than you think when considered from the force per square area perspective. I think that a very light touch is the best way to steel. Of course you always hear , relative to stopping on leather, to not use much more than the weight of the blade for pressure.

The same is not widely discussed with a steel, but I can't see any reason not to use the same sort of technique. A light, smooth, consistent, touch has always gotten my best results when steeling.

I know that the people that do it are convinced that is works, but I would really like to see some micrographs of the blades afte steeled by one of these folks that do 120 strokes per minute... so fast your eye can't follow the blade. I have an idea that it would not be pretty. It does look very impressive when they do it though

Phil

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Re: Sharpeners and steels in a real life kitchen

Posted by peppersass - 19 May 2012 14:27

Thanks for the info on the Victorinox steel. I looked at that one on Amazon and almost bought it because I liked the black handle better than the F. Dick orange handle, but in the end went for the F. Dick instead. I figured this was a proven instrument, whereas there had been no information posted on the Victorinox. Very glad I bought the F. Dick!

I haven't given the F. Dick steel a real test yet, and haven't looked at it under magnification. I tried a few swipes of a blade that had been honed with a ceramic honing rod, which wasn't a good test. But it alerted me to the fact that this steel is a little more difficult to work with than the ceramic honing rods I've been using. There's no resistance at all, so it's more difficult to keep the blade properly position and to keep the steep vertical. Then narrow point of the steel can slip on the counter, too, so you need to use a wooden cutting board or a piece of rubber underneath.

Although I haven't confirmed it yet, I agree that a very light touch is the way to go with the F. Dick steel. If the edge has been properly prepared, I don't think it'll take much force to straighten out any rolls.

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Re: Sharpeners and steels in a real life kitchen

Posted by RogerHerbst - 19 May 2012 18:22

The pictures of the steeled edge at the beginning of this topic are pretty much what a moderately aggressive (grooved) steeling looks like. Once I get an F. Dick smooth steel I'll do some analysis of light stroking with both smooth and grooved rods on lightly used blades and post the pics.

Ultimately, I'd like to find a way to do light touch up on the edge without butchering it to the point that I shouldn't have bothered fine honing it first place. Then again, if you're only going to hone a knife to 750 grit, then a quick flail with a grooved steel will give you a usable edge that won't scare your guests.

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