CUTTING COSTS: HOW SHARP KNIVES CAN SAVE YOUR BUSINESS MONEY

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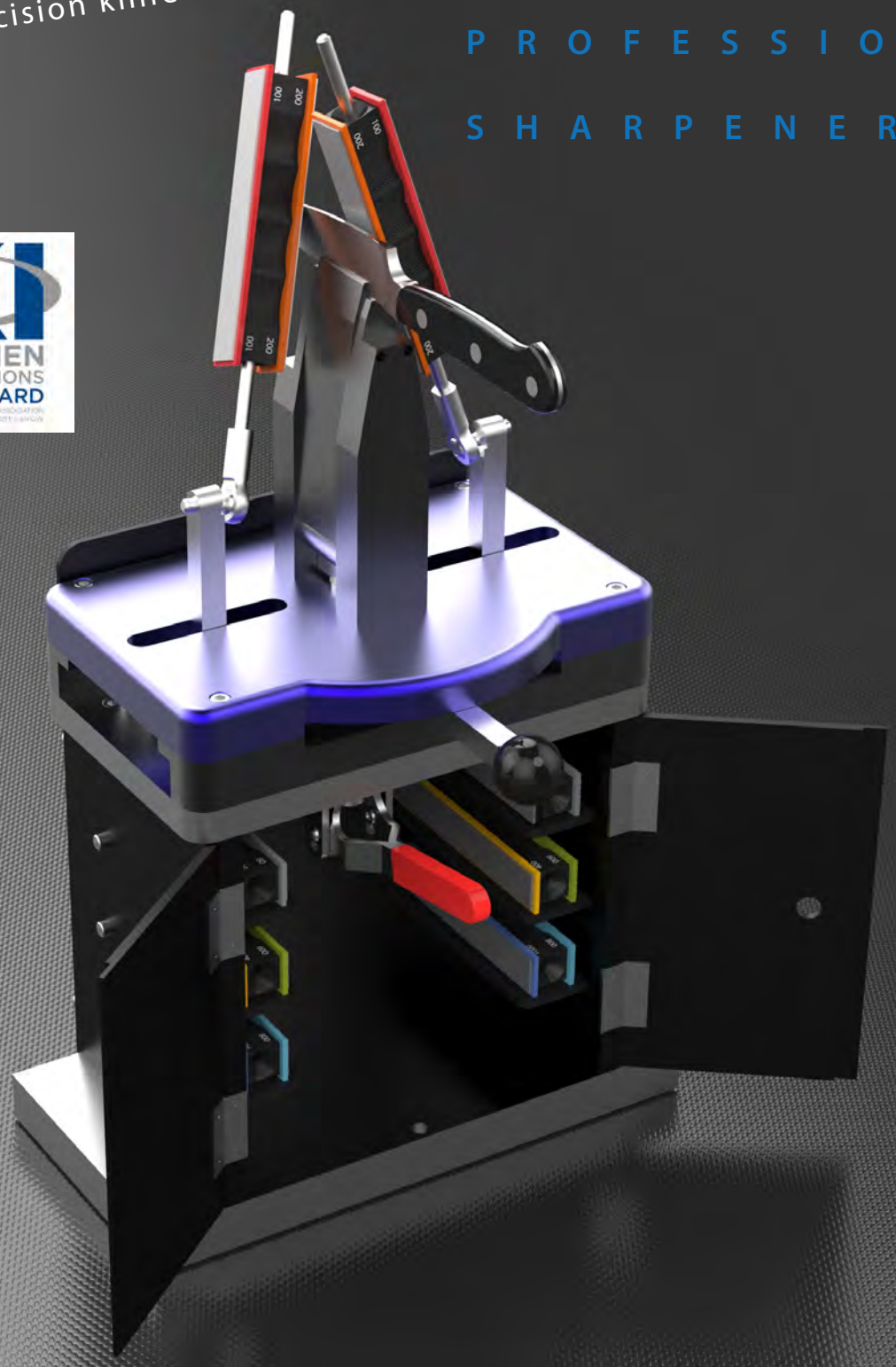

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EXPLORING A LESS COSTLY ALTERNATIVE

For professionals in the food service industry, having a good knife can make or break hard work. Knives with dull, rough edges can not only be difficult to work with, but can damage food, shortening shelf life and ruining presentation. The solution seems simple: just keep your knives sharp! But how does a business go about doing that? Many restaurateurs choose to employ a knife sharpening service or simply have their employees sharpen their own knives, but sharpening services can be expensive and learning to hand sharpen takes a lot of training and skill, and only produces modest results even when done by a practiced expert. The purpose of this white paper report is to explore the effect poorly sharpened knives can have on food, as well as the long-term expense of sharpening services, and to offer a more effective, less costly alternative.

An old adage states that a dull knife is more dangerous than a sharp knife. In terms of safety, a dull knife requires more force to cut, which can be dangerous, whereas a very sharp knife glides easily through food without the need for a lot of pressure. A dull knife can crush and tear delicate foods such as lettuce, tomatoes, and celery, ruining their presentation. This ties into how dull knives can lead to increased costs in unexpected ways; dull knives, especially when used for prep work, can bruise and tear food, leading to much faster rotting or oxidation of the food.

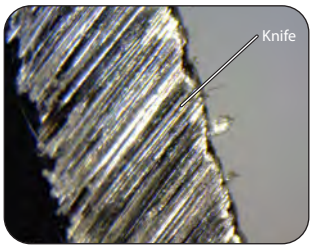
Dull knives not only lead to waste and lost revenue, but can also slow productivity. Rather than efficiently prepping large amounts of food at once, workers are limited to small batches to prevent oxidation and food wastage. Work with dull knives also simply takes longer than work with sharp knives.

The answer to the dilemma of dull knives eventually comes down to dollars and cents. Many food service establishments employ a knife sharpening service, usually a mobile service or a knife exchange program, to keep their equipment in working order. But are these services worth the cost? The average price of a knife sharpening service is $35.50 per month or $426.00 per year. Most services charge per knife, so the more knives you have, the more expensive a service will be, especially when you include any taxes or delivery fees a sharpening service can stack on top of the cost of just sharpening.

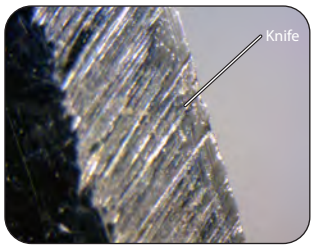
Another potential cost to consider is knife replacement. Most professional methods of sharpening remove an unnecessary amount of metal from knives, shortening the lifespan of a tool that should last for years. A belt-driven machine can remove up to .0775″ of metal per sharpening. After ten sharpenings, a knife can lose up to ¾″ of metal! If your knives are sharpened once a week, that's ¾″ lost every two and a half months. You end up paying for not only the service itself, but for more knives as well.

FIG. 1: A KNIFE SHARPENED BY A BELT-DRIVEN MACHINE, MAGNIFIED x500 TIMES

Belt-Driven System Stage 1



Belt-Driven System Stage 2



The effectiveness of traditional sharpening methods is another concern, particularly that of a belt-driven sharpening machine. Finding a service worth it's salt can be frustrating. Consider the images below: The knife in Figure 1 was sharpened by a professional on a belt-driven machine. As the image shows, the knife has a rough, jagged edge with many large micro-serrations or "teeth."

FIG. 2: CELERY PIECES CUT WITH THE KNIFE PICTURED IN FIG.1 AT 2.5 DAYS (LEFT) AND 9 DAYS (RIGHT).

Cut With Belt-Driven Sharpened Knife

Cut With Belt-Driven Sharpened Knife

Much like a dull knife, a toothy edge like this can snag on food, causing tearing and bruising. This rough action contributes to fast oxidation, wasted food, and poor presentation. The celery pictured below was cut with the knife pictured in Figure 1. As you can see, oxidation is already present at 2.5 days and very apparent at 9 days. All food will eventually oxidize but a rough, jagged knife-edge will dramatically speed the process.

Knives sharpened by traditional methods, such as a belt-driven machine, not only tend to present these jagged edges, but they also show poor edge retention. Knives in professional kitchens get near-constantuse, so an edge that will hold up under pressure is vital.

However, because current sharpening techniques so often produce uneven bevels and a lot of micro-serration, edges fail quickly and need more frequent sharpening. This, of course, leads to more money spent on sharpening, more knives out of commission, and more knives needing replacement. In a recent study by the Cutlery and Allied Trades Research Association, two knives were tested for initial sharpness and edge retention. One knife was sharpened by a professional on a belt-driven sharpener, while the other was sharpened on the Wicked Edge Professional Series sharpener. The knives were tested on their Initial Cutting Performance or ICP (how deep into a stack of test cards the knife could cut after only three strokes or 'cycles') and their Total Card Cut (how deep the knife could cut into the test cards after 60 cycles).

FIG. 3: IN THIS TABLE PRODUCED BY THE CUTLERY AND ALLIED TRADES RESEARCH ASSOCIATION, A BELT-SHARPENED KNIFE (KNIFE 1) IS SHOWN TO FAIL A STANDARD EDGE RETENTION TEST, MEANT TO REPRESENT AN AVERAGE DAY'S USE. THIS KNIFE WOULD NEED TO BE RESHARPENED AFTER ONLY ONE DAY'S USE.

* Indicates failure to comply with the standard

Knife	ICP (mm)	Pass/ Fail	Comment	TCC 60 Cyles	Pass/ Fail	Comment
1	47*	Fail	Poor	237	Pass	Average
2	109	Pass	Very Good	549	Pass	Very Good

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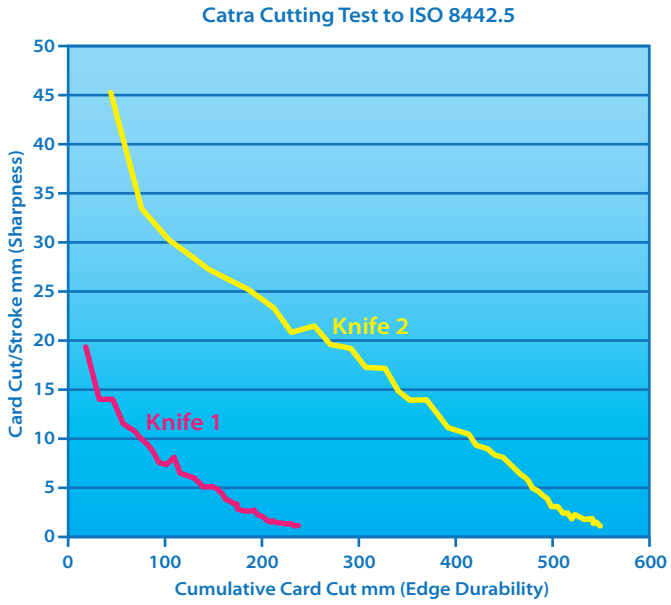
The knife sharpened with a belt-driven system also shows a severe lack of durability, as shown in the chart below.

FIG. 4: THIS CHART SHOWS THE DURABILITY OF A KNIFE SHARPENED BY A BELT-DRIVEN MACHINE (KNIFE 1) WHEN COMPARED TO A KNIFE SHARPENED ON THE WICKED EDGE PROFESSIONAL SERIES SHARPENER (KNIFE 2) THE EFFECTIVENESS OF KNIFE 1 LESSENS SIGNIFICANTLY FASTER THAN KNIFE 2 AND ALSO SHOWS FAR LESS INITIAL SHARPNESS.



A common solution to the problem of dull knives is to have employees sharpen their knives in-house using knife-sharpening machines, tri-hones, steels, or whetstones. However, training employees to use these methods, especially hand sharpening methods, takes time and skill.

You also tend to see the same problems with edge retention, rough edges, and the need for frequent touch-ups. Rather than prepping food or serving customers, employees can get stuck ineffectively sharpening knives over and over only to produce subpar results.

So, what is a restaurateur to do? You need to have sharp knives in order reduce costs due to food waste and to keep a high standard of presentation, but outside sharpening services are expensive and can lead to more costs over time. Employees could sharpen knives in-house, but most sharpening machines can destroy good knives and teaching hand-sharpening is a long and arduous process.

The first step is to obtain a highly effective, in-house sharpening system. It has to be able to put a fine, clean edge on any knife while being easy enough to use that any employee can sharpen when they need to. It needs to be fast, so that time isn't wasted on knife maintenance.It also needs to produce even, symmetrical bevels for high edge retention without taking off too much metal. Once your knives are being sharpened properly, they will be able to cut even the most delicate foods without bruising, tearing, or botching presentation. This will lower overall food cost as less food is lost to poor preparation and short shelf-life. Employees will be able to work more productively as they won't have to constantly steel or resharpen their knives, and they will be able to prep more food at one time. Having an effective sharpening system in-house also eliminates the need for a sharpening service. Instead of paying $35.50 or more per month, your employees can sharpen their own knives like experts.

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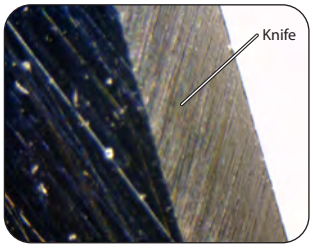
For years, the Wicked Edge Precision Knife Sharpener has been popular with hunters, knife hobbyists, and outdoor enthusiasts. Known for its precision, effectiveness, speed, and ease of use, the Wicked Edge can put a razor sharp edge on almost any knife without requiring special training or knowledge. Wicked Edge currently carries two home-use models, two portable models, and has recently introduced its most advanced model yet, the Wicked Edge Professional Series sharpener.

Created specifically for use in professional kitchens, the Professional Series sharpener combines sturdy construction, ease of use, and effectiveness for an investment that will greatly benefit any food service establishment. The Professional Series sharpener takes Wicked Edge sharpening to the next level of precision, producing razor-sharp, clean edges with minimal effort. Designed to be easy to use, any member of your staff can bring a knife to razor sharpness and maintain an edge with minimal training and no special knowledge of knives or sharpening techniques. The Wicked Edge consistently produces fantastic results so you will never have to buy another sharpening system. A knife sharpened with the Wicked Edge was subjected to the same tests mentioned above, examining metal loss, sharpness, edge retention, and its effect on food oxidation. As the image in Figure 5 shows, the Wicked Edge Professional creates a much cleaner, sharper edge than a belt-driven system. In the same standard edge retention and sharpness test as pictured in Figure 4, a knife sharpened by the Wicked Edge was tested for initial sharpness and edge retention. As the graph in Figure 3 and the graph in Figure 4 show, the knife sharpened with the Wicked Edge (Knife 2) had an Initial Cutting Performance of 109mm, meaning it cut 109mm of test cards within the first three test cuts, whereas the belt-driven sharpened knife only cut 47mm. The Wicked Edge knife also had a higher Total Card Cut, meaning that after 60 cuts or 'cycles', the Wicked Edge sharpened knife retained much more sharpness than the belt-driven sharpened knife

The Wicked Edge also removes far less metal than a belt-driven system. Where a belt-driven system removes about .0775" of metal per sharpening, the Wicked Edge removes only .002" of metal, allowing a

FIG. 5: THE KNIFE PICTURED HERE WAS SHARPENED WITH THE WICKED EDGE PROFESSIONAL SERIES. NOTE THE CLEAN, EVEN BEVEL AND LACK OF JAGGED MICROSERRATIONS.

WickedEdge® Sharpener Stage 1



WickedEdge® Sharpener Stage 2

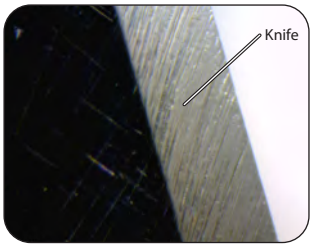


FIG. 6: CELERY PIECES CUT WITH THE WICKED EDGE SHARPENED KNIFE AT 2.5 DAYS (LEFT) AND 9 DAYS (RIGHT).

Cut With WickedEdge® Sharpened Knife

Cut With WickedEdge® Sharpened Knife

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knife a much greater longevity and usefulness. So not only do you have longer-lasting knives, you have a clean edge that is much sharper and much gentler with food. The clean, gentle cut of a knife sharpened on the Wicked Edge lengthens the shelf life of food by reducing tearing and bruising. With longer lasting food, your staff can prep larger amounts of food at once without worrying about losing supplies due to oxidation.

The Wicked Edge Professional Series sharpener is a wise investment for any business owner looking to save money, time, and frustration. It easily pays for itself by eliminating the need for a sharpening service, lowering food cost, increasing employee efficiency, and allowing your knives greater effectiveness and longevity. Training employees to sharpen on the Wicked Edge is quick and easy and will lead to more satisfaction, both for your employees themselves and for your customers.

FIG. 7: EXAMPLE OF KNIFE BEING SHARPENED USING GRINDING WHEEL.

Sharpening Knife with Grinding Wheel

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