

UNDERSTANDING INFRARED GRILLING

Industry Experts Give Helpful Advice to Make the Correct Choice Among the Many Available Grills

COOKING

Charcoal vs. gas; infrared vs. conventional. What does it mean?

We all like to eat good, tasty food. Everyone who grills outdoors wants to achieve or exceed “restaurant quality” results, and to do so consistently. For this discussion we want to focus on direct heat cooking (most frequently done) as opposed to indirect (like smoking). With direct heat cooking the food is usually placed over the heat rather than to the side.

With so many grills to choose from and new ones entering the market all the time, many people are confused. Sales hype and too much conflicting information make it difficult to make an informed decision. In this short space I hope to give you practical facts to help you with that decision.

When people say they like charcoal better than gas, they are usually referring to the taste of the final product. They feel they have more control over the fire, more consistent heat and a hotter fire. In some respects, this is true. When the coals turn white hot, that’s when to put the food on because you can sear it properly. Then you finish the cooking process by moving the food to a less hot area which yields juicy, succulent food regardless of whether it is meat, fish or vegetables. Gas grill manufacturers have tried to simulate that cooking process while giving the chef the convenience of gas (easy to light, continuous heat settings, less mess).

Everyone is familiar with the actual gas grill results that keep people searching for a better grill or keep the “traditionalists” using charcoal:

- There are hot and cold spots because the burners clog and rot so you have to keep moving the food around.
- If it is cooler out, it takes longer to cook, so results vary.

- You have to keep the grill cover closed so you can’t watch the food.
- The fire is not really hot enough to sear the food so the entire cooking process is really drying out the food.

Grilling is a simple matter of the relationship between the type of food, heat and time. By following guidelines and modifying them through your experience to match your specific tastes and degree of doneness, it will allow you to consistently achieve great grilling results. Unlike infrared

grills, the problem with conventional grills is their inability to be consistent.

With a conventional gas (natural or propane) BBQ grill, your food is actually cooked using an indirect source of heat because you are really heating the air between the heat source and the



food. It is referred to as convection heating because it is similar to cooking in an oven. Conventional grills have burners usually made from a metal (steel, stainless, cast iron, brass) tube with 35 or 40 jets and will reach a temperature of approximately 450°-600°. It doesn’t get hot enough to sear and you have to cook with the lid down to hope to maintain a consistent temperature. If there is a metal piece between the burner and the grate or ceramic “briquettes”, sometimes called a “flavor enhancer” or “flare-up” retarder, the heat at the grate will not reach 600°. Attaining temperatures above 600° is very important for searing. Meats need to be seared at temperatures of at least 650° and 700° to lock in the flavor and juices.

HOW INFRARED COOKING WORKS

With a charcoal grill, when the charcoal turns white, it is producing heat at approximately 1200°, which is infrared heat. Infrared cooking is nothing new. It has been used in commercial kitchens for 50 years. In restaurant kitchens, infrared burners are called Salamanders and are positioned over the food. Going back to the concept that grilling is a matter of the relationship between the food, heat and time, infrared burners produce a consistent heat so that restaurants can produce consistent quality and

doneness regardless of the type of food! Every time you visit a Morton’s or Capital Grille, that’s how they get it right every time.

To achieve this same consistency and cooking quality for the home grilling market, several years ago the Thermal Engineering Corporation (TEC) obtained a patent to position an infrared burner below the food in a grill.

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HOW INFRARED COOKING WORKS (continued)

These grills are powered by either natural gas or propane. They led the revolution that continues to this day with infrared grills. The burners in these grills are rectangular shaped ceramic, stainless or inconel units with approximately 300 gas jets that reach a temperature between 1200° and 1400°. At these temperatures, you can truly sear food.

These burners allow the cook to achieve white hot charcoal temperatures in 3 minutes, and maintain that temperature for as

long as the cook needs to! That is the breakthrough of infrared grilling!

This is how the infrared technology works: as the burner is heated to a very hot temperature, it starts to emit infrared radiation which cooks food and is independent of the ambient air temperature. A good example of this is when you are standing in the

shade but you put your arm in the sun; your arm warms up.

That is infrared heat!



THE GRILL MARKET

After TEC's patent ran out, around the year 2000, there were only 2 companies making all-infrared grills: TEC and Solaire. The traditional grill and well known indoor appliance companies (Viking, DCS, Dacor, Wolf, etc.) spent time and

money pooh-poohing the need for infrared heat in grilling rather than embracing the technology. Over the next several years, a segment of the market was converted to grilling with infrared heat so the traditional grill companies were forced into offering their own infrared burners. Typical initial infrared burner introductions by these companies were in the form of rear rotisserie burners which they contended was the only time necessary to use infrared heat. With some of these companies, this continues today. While this is an excellent use of infrared burners, it neglects the 99% of the other cooking that occurs on the grill.

Most of the traditional grill companies now sell an infrared burner option in the normal burner position (with conventional burners in the rest of the grill). They market these as "sear zones" and instruct their customers to sear the food on the infrared burner and move it over to the conventional burners to finish it. This is required with some manufacturers because their sear zones don't have a temperature control; they only work on "high". Others have temperature controls, but they still instruct the cook to move the food over. While this works, it effectively reduces the cooking surface area of the grill by as much as 1/4 to 1/2 of your cooking area depending on

the number of burners. If a manufacturer is instructing the use of a grill in this manner, a better option might be to purchase a "sear pod" or separate infrared burner that can be built in alongside the built-in grill. The obvious downside is the chore of transferring

all of the food from the "sear pod" to the grill. Many of the outdoor kitchens today employ several types of grills depending on the type of cooking being done. Just like indoor kitchens where several cooking appliances from different manufacturers ("Best in Class") are used, the outdoor kitchen offers the same opportunity for "Best in Class" cooking appliances. Consider the type of cooking required and employ the best appliance for each job. Some of the popular products are Ceramic "Egg" smoker grills powered by charcoal, high output "Power Burners" that can boil large stock pots for lobsters, crabs, crawfish and shrimp, pellet grills and many others. I believe you will find the infrared grill ideal for direct-heat cooking. The infrared grill has made it possible to char broil steaks and other types of barbecuing that could formerly only be done with commercial equipment. The infrared technology is easy to use and will have you barbecuing great tasting food in a fraction of the time that it takes with traditional gas and charcoal grills.

For more information on infrared grilling, please visit DANVER Stainless Outdoor Kitchens online www.danver.com.

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