

## **Excess farm products and smoking/drying/curing**

**Notes from a talk by John Bush at the SFTG Friday Meeting 20th March 2009**

### **Irreverent Introduction (or should that be irrelevant)**

There is not a lot of “literature” on the subject, (although there are plenty of books (see reference section at the end))

Favourite quotes include:

- “But bacon’s not the only thing, that’s cured by hanging from a string” Hugh Kingsmill
- “But since he stood for England, and knew what England means, unless you give him bacon, you must not give him beans”, The Englishman by GK Chesterton

“Meat Preservatives from “Henleys Formulae for Home and Workshop” 1927 (“Most of These are considered injurious by the US Department of Agriculture and should therefore be used with extreme caution”) I should think so!

- boracic acid,
- sulphuric acid,
- aspirin,
- plaster of paris,
- sal ammoniac,
- benzoic acid,
- sodium phosphate,
- alumina,
- sodium oxide,
- azo dyes.

### **Why should we bother with smoking?**

As Wikipedia says “Smoking is the process of flavouring, cooking, or preserving food by exposing it to the smoke from burning or smoldering plant materials, most often wood. Meats and fish are the most common smoked foods, though also smoked are cheeses, vegetables, and ingredients used to make beverages such as beer or whisky,”

This talk focuses on Smoking, but smoking is just part of a family of techniques which have evolved to enable us to process farm or other food products. The selection of technique depends on what we want to achieve with the food. Each of the things we might want to do can be done by different approaches with different cost impacts:

#### **Dry**

- Cold smoking (free - £1000)
- Dehydrating ( free-£60-200)
- Aga (£3000-6000, but you can do other things with an Aga...)
- Salt Cure and Air-dry

## **Preserve**

- Cold Smoking
- Dehydrator
- Refrigerator
- Freezer
- Vacuum pack
- Salt Cure and Airdry

## **Prevent rancidification of outside of oily fish** (how smoked salmon etc probably started)

- Cold Smoking
- Vac pack

## **Cook**

- Hot smoking (Free- £1000)
- Aga
- Slow Cooker

Although smoking started as a way of doing all these things, most of them can now be better done by other means, especially use of the freezer and oven, As Wikipedia says “Smoke is a decent antimicrobial and antioxidant, but smoke alone is insufficient for preserving food in practice. The main problem is that the smoke compounds adhere only to the outer surfaces of the food; smoke doesn't actually penetrate far into meat or fish. In modern times, almost all smoking is carried out for its flavour. This flavouring can be purchased as a liquid in most supermarkets to mimic the flavour of smoking—not its preservative qualities—without the actual cooking process (see also liquid smoke).

In the past, smoking was a useful preservation tool, in combination with other techniques, most commonly salt-curing or drying. For some long-smoked foods, the smoking time also served to dry the food. Drying, curing, or other techniques can render the interior of foods inhospitable to bacterial life, while the smoking gives the vulnerable exterior surfaces an extra layer of protection. For oily fish, smoking is especially useful, as its antioxidant properties delay surface fat rancidification. (Interior fat isn't as exposed to oxygen, which is what causes rancidity.) Some heavily salted, long-smoked fish can keep without refrigeration for weeks or months. Such heavily-preserved foods usually required a treatment such as boiling in fresh water to make them palatable before eating.”

But Smoking and dehydrating are still tops at the following:

## **Add/Increase Flavour**

- Hot smoking
- Cold Smoking
- Dehydrating (Cure and Airdry)
- Fake it
  1. Use a product called liquid smoke- which was used in the preparation of the sample “smoked eggs” consumed after the talk - the white eggs which hardly tasted of smoke had been in the smoker for 6 hours - the brown eggs had been

hard boiled and shelled and marinated in soy sugar and water in the fridge for 36 hours and had a teaspoonful of liquid smoke added to the liquid 2 hours before we drained them and set off for the meeting - so the fakes looked and tasted more real - So always cold smoke eggs

2. Bacon and ham can be dry cured with a salt and smoke flavour cure - the results are very good-often better than commercial branded smoked bacon

### **Add Value**

- Hot smoking
- Cold Smoking
- Dehydrating

**What do we need to achieve success?** (Apologies for the obvious nature of some of the following)

### **Produce:**

- Meat
- Fish
- Veg, etc

### **Knowledge:**

- Hygiene
- Safe temperature for cold or hot smoking
- Appropriate Cures
- Time
- Safe Storage temperature
- Storage

### **Cure (preserve)**

- Salt
- Weird and wondrous chemicals
- Water (or not)

### **Cure (flavour)**

- Salt
- Sugar
- Spices
- Herbs
- Wine, Cider, Beer
- Fruit juices.....water or not

**A place to dry** (smoke adheres much better to a dry surface, almost a crust formed by hanging the produce in a cool dry place)

- Cold - 24 hours or more
- Hot 2 or 3 hours

### **Heat**

- None (air drying not smoking)
- A bit (cold smoking)
- Quite a bit (Hot smoking- any more than this and you are hot smoking and barbecuing which only works with large meat joints/ pig roasts)

### **Smoke**

- Sawdust smouldering
- Charcoal
- Apple prunings/Oak/Beech//Vine prunings , alder,(but not old fence posts/furniture/fresh pine/fir/leylandii)
- Water (to increase smoke or use green wood)
- Ignition (firelighters/gas poker/calor gas ring/paper and matches)

### **A place to smoke**

- Essentials of the place to smoke -
- Enclosed to trap the smoke
- Fuel to generate smoke
- Heat to ignite the fuel
- Device to ensure direct heat doesn't reach produce - the main difference between hot and cold smoking is that we generally do not have the source of smoke directly under what we are smoking
- Thermometer in smoke area
- Device to produce smoke
- Device to hold produce (racks, hooks..)
- Source of moisture to prevent rapid drying (for hot smoking)

### **What have folk used (common factor is you can't use them for their original purpose after using them to smoke!)**

- Abu smoke box
- A biscuit tin
- Dustbin
- Old non-working Fridge
- Wooden shed/dog kennel/cupboard
- Purpose built smokehouse
- 3 holes in the ground
- Oil drum (Peter Castle)
- Your chimney (well you can use this one again!)

**Time** (Hot- temperature above 150 deg Fahrenheit, typically 200-250 degrees Fahrenheit (or 100 degrees Centigrade)

- Hot smoking meat - until your meat thermometer tells you you're OK - c170 deg F (maybe higher for pork and lower for rare beef)
- Hot smoking fish -your fork is your best friend when it flakes easily for the fork..it's cooked
- 2-3 hours fish steaks, small whole fish, tomatoes, prawns
- 4-6 hours sausages, pork chops, whole salmon, small chicken
- 7-8 hours hand of pork
- Up to 10 salt brisket
- Over 10 hours turkey fresh ham

**Time** (Cold below 100deg Fahrenheit)

- A couple of days
- Trout
- Kippers
- Sausages, salamis etc
- Dry fruit, veg, nuts
- 4 days or so
- Salmon
- 8 or so up to 40
- Entire hams
- beef

**What can you smoke?**

Cracking smoked stuff Grommit:

- Venison fillet, Beef fillet, Beef Brisket
- Pork chops, joints
- Sausages
- Tomatoes
- Trout
- Salmon
- Mackerel
- Sprats
- Chillis, Peppers
- Onions
- Prawns
- Eel
- Mushrooms
- Cheese
- Goose breast
- Aubergines
- Malt (for whisky and Beer "Rauchbier" )

MMMMaybe not: Potatoes, Cheese (in hot smoker), and Broccoli.

### What should you cold smoke or hot smoke

Cold	Hot
Trout	Trout
Salmon	Salmon
Ham	Pork
Venison	Venison
Eggs	?eggs
Eels	Tomatoes., onions
scallops	Peppers. chills
Jerky	Beef
	Aubergines
	Mushrooms
Salami/garlic sausage./chorizo	Sausage/ Chorizo
	Pastrami/Christmas spiced smoked beef

### And if you can't wait to get to it:

Much of what I know, apart from what I've learnt from bitter experience came from the References below. Between them they cover approaches to building your own smokers, comments on purpose built smokers from £20 to £1000, and recipes for curing, drying and smoking.

River Cottage Cook Book and Meat Book Hugh Fearnley Whittingstall (great place to start in terms of curing and smoking)- chorizo and bresaola recipes..

Keith Erlandson "Home Smoking and Curing" Currently on offer £3.99 at the Book People internet remainder booksellers -This covers very basic recipes but is perhaps the most thorough on how to design and use your own smoker for cold and hot smoking

Preserved by Nick Sandler and Johnny Acton- great romp through curing, smoking etc includes my favourite smoked or unsmoked salami and a great recipe for air dried Parma type ham

Pinneys Norfolk smokers handbook - small paperback booklet available in East Anglia (for the 3 hole smoker design)

Jane Grigson "Charcuterie" thorough on recipes for curing and preparing hams and sausages- French, Italian, English as well as a few hints on smoking

A range of smoking websites, mainly for recipes and hints, e.g. (and purely as an example) <http://www.forfoodsmokers.co.uk/index.html>

Wikipedia

Michael Ruhlman & Brian Polcyn "Charcuterie- the craft of salting, smoking and curing" large thorough American book which does what it says on the tin; lots of great recipes, less on how to build your own though

Out of print Ministry of Agriculture and Fisheries "home curing of bacon and hams" 1945 and 1949 (Would have donated to the library if I won it- I hope it wasn't one of you who out bid me - I gave up at 7.99! It went at £10.01 for a 60 page booklet)

The El Paso Chile Company's Burning Desires by W Park Kerr. Mainly South West American food but includes a few of my favourite hot smoking recipes, basically "take meat, cover with a chilli sugar salt rub, whack it in the hot smoker and after a few hours eat or, if you worry whether it will ever cook take it out, wrap in silver foil, pour in beer and stick in the oven for a couple of hours - fool proof)

Instructions for Brinkmann smokers (hopefully can get off net but are good on timing etc)

"South Western Grill" by Jane Butel

"South Western Grill" by McLaughlin

## Questions

### Q Is smoking produce a health benefit?

A There is little doubt that consumption of large amounts of smoke (e.g. cigarettes) or salt is viewed by all health authorities as a bad thing. All cured and smoked products have a sizable proportion of high level organic compounds (from the smoke and its interaction with the produce) and salt( from curing). If you ate a lot every day it would be very bad for you (and the same goes for products using liquid smoke. )However, in my view occasional consumption of smoked food is great and not too risky for most of us

### Q Smoking sausages?

A It can be done hot or cold - Ordinary SFTG produced sausages work well hot smoked and eaten either hot or cold, and are fine cold smoked too. Equally there are a number of pork sausage fillings which were intended to be preserved by cold smoking. Chorizo, a range of French sausages and of course some salamis are meant to be cold smoked. For example - summarised from "Preserved" see references-

Mince and mix together 1kg pork shoulder, 300 g back fat(or use a mix of belly and shoulder..)1.5 tsps paprika, 1 tsp ground black pepper,35g salt plus 0.25 tsp saltpetre(or use the equivalent of commercial cure mix),0.5 tsp cayenne, 1tsp caraway seeds,0.25 tsp acidophilus powder, dissolved in 1 tbsp water,

Stuff into casings using a sausage machine (easy) or a wooden spoon and a funnel(once only - a really really annoying way for two people to spend an hour or two)

Incubate the salami - hang in a warm environment (around 30degrees C/86deg F) for 24 hours

Cold smoke for 2 days at around22 deg C/72 deg F

Hang the salami somewhere cool and airy, where the temperature will stay below 12 degrees Centigrade. 54 Fahrenheit (i.e. don't expect to get away with doing this in March or April or May or thereafter!) for about 2 months (hog casings) / 4 months (beef casings)

When they feel firm and look dry (complete with white acidophilus mould on outside) sample and eat within a month - keep in fridge! You can also rub off the mould and roll in wood ash if you wish to keep them longer before eating, or you can just leave them alone - they get harder but no less delicious

### **Q How do you make ham?**

A Dry cure with salt/ commercial cure in a wood or plastic box, drain off brine and re-salt. Timing v weight of pork is key. Then according to recipe wash and use a flavoured brine, or coating, air dry and then cold smoke or not smoke, wrap in muslin and hang somewhere cool and airy and wait .....months...years... Green (Unsmoked) Bacon is rather simpler - salt, fridge, plastic container about a week - look at HFW recipe

### **Q What is a three holer?**

A 1- A kind of outdoor privy for a large family, or

2- A clever, simple disposable way of cold smoking:

- Dig three holes, each one deeper than the other:- Hole 1 is the smoking hole, hole 2 the fire hole and hole 3 is the air supply
- Connect the base of hole 3, (the deepest) to the base of hole 2 with an upward slanting tunnel
- Connect the base of hole 1 with a horizontal tunnel to a point about 1 foot up in hole 2
- Light a fire in hole 2- once it's going well stack logs above it and put a tight lid on hole 2
- Stack the food to be smoked or racks or hooks on sticks across hole 1
- Put a lid with a small hole across hole 1
- The fire in hole 2 burns and sucks air in from hole 3. The logs above the fire do not burn until they fall into the air zone at the bottom of hole 2
- The smoke from the fire can only get out by passing through the tunnel to hole 1
- The smoke cools and passes over the food cold smoking it!

### **Q. What are the samples?**

- A Definitely not for sale- They are for you to get some ideas of what you can do - You all know cold smoked ham, salmon, trout etc. These are hot smoked:
- Hand of pork brined in wine, herbs and salt and smoked for 7 hours
- Chicken leg brined in wine, herbs and salt (NB as it was brined for the same time as the pork it is saltier) and smoked for 4 hours

- Large Hand of pork coated in a chilli pepper sugar, salt rub ( as in the Burning Desires recipe) smoked for 7- 8 hours and finished in a slow oven for 2 hours
- Fresh commercial Dutch tomatoes with salt and herbs and oil, smoked for 2 hours and chopped into salsa (shows how much nicer English toms would be )
- Tomatoes from our greenhouse smoked last September and dried, ground and mixed with a ground chipotle chilli (Smoked dried jalapeno) and water for an instant spicy dip
- Hot smoked eggs and fake smoked eggs (see above)

And an apology (to those of you who were there - We forgot to bring the hot smoked salmon steak- it was delicious next day - moist, smoky and still tasting of fresh salmon as well.