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## SMOKED FLAVORED ALMONDS

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### INTRODUCTION

An almond roaster purchased CharOil Hickory™ to flavor their almonds. Bench-top work indicated that the CharOil Hickory™ (Oil H) would be excellent complement to their almonds, but when the formulation was taken to large scale production the Oil H flavor disappeared

Nuts are roasted their almonds at 350 F and allow the nuts to cool to ambient temperature. The next day the roasted nuts are run through a tumbler, and using a Spray Dynamics sprayer, the oil, salt and flavor are added.

### SUMMARY OF PROJECT

Previous research states that flavorings will be absorbed by nuts if they are applied during the cooling cycle at 150 F. It has also been found, that volatile flavorants are more readily absorbed with an uncooled somewhat hot nut. This project report relates to a method of incorporating Red Arrow's Hickory smoke flavors into roasted almonds at controlled temperatures prior to cooling the roasted nuts to room temperature.

### MATERIALS AND METHODS

#### EXAMPLE 1- CHAROIL HICKORY™

One hundred grams of raw unskinned almonds were uniformly coated with 1 gram of peanut oil and roasted in a circulating forced air Kitchen Aid™ conventional oven at 350 F for 9 minutes. The heated almonds were transferred to a large stand -up freezer and cooled for 2-1/2 minutes. The partially cooled nuts were transferred to a mixing bowl and a blend of 1 gram of peanut oil, and 2.1 grams of Oil H was applied to the roasted almonds. Blending of the oils continued until all of the oil was absorbed (about 2 minutes). The coated almonds were then cooled to room temperature and approximately 1.5 grams of salt was applied uniformly to the almonds. Tasted almonds and noted the strength of smoke flavor right after application. Almonds were placed in open plastic containers. The next couple days, almonds were tasted again and smoke flavor intensity was noted.

#### EXAMPLE 2- CharDex Hickory™

Example 1 method was repeated using 1.8 grams of peanut oil and 0.25 g CharDex Hickory.

**EXAMPLE 3- CharSalt Hickory™**

Example 1 method was repeated using 1.8 grams of peanut oil and 3.0% CharSalt Hickory.

**EXAMPLE 4- CharDex 7039™**

Example 1 method was repeated using 1.8 grams of peanut oil and 0.50% CharDex 7039.

**RESULTS AND DISCUSSION**

| <b>Example</b>                         | <b>Smoke Flavor Intensity right after application</b> | <b>Smoke Flavor Intensity 1 day after application</b>                             | <b>Smoke Flavor Intensity 4 days after application</b> |
|--|---|---|--|
| 1 (Oil H)<br><b>Should use only 1%</b> | Very strong-distinct smoked hickory flavor            | Not as strong as right after application but still distinct smoked hickory flavor | Flavor remained at same intensity                      |
| 2 (Dex H)                              | Pleasant smoke flavor                                 | Flavor remained at the same intensity   | Flavor remained at same intensity                      |
| 3 (Salt H)                             | Pleasant smoke flavor                                 | Flavor remained at the same intensity   | Flavor remained at same intensity                      |

Most panelists preferred the smoked almonds flavor the day after application. Right after application, Dex H and Salt H were acceptable, but the oil H was too strong.

**CONCLUSIONS**

It has been found that roasted nuts with temperatures below 130 F do not absorb flavoring well, while temperatures above 230 F, there is a reduction in the amount of volatile flavor components that are not absorbed by the nuts. Therefore, the temperature at which the flavor is applied is crucial in obtaining optimal flavor profile.

“In house” taste panels showed that the CharDex Hickory, CharSalt Hickory, and CharOil Hickory all provided acceptable smoke flavor to the almonds. The

CharSalt Hickory was the number 1 choice overall. The smoked salt has an excellent smoke flavor, the flavor does not dissipate, and it is easy to apply. The CharDex Hickory seemed to have the closest flavor to Blue Diamond Smokehouse almonds.

The following is a list of some seasoning companies to possibly work with:

1. Illes Seasoning & Flavors  
Dallas, TX  
(214) 631-8350
2. Chef Paul Prudhomme's Magic Seasoning Blends  
New Orleans, LA  
(504) 731-3590
3. ABCO Inc.  
Fairfield, CA  
(887) 678-2227
4. Griffith Laboratories  
Center Alsip, IL  
(708) 239-2402
5. McClancy Seasoning Co.  
Fort Mill, SC  
(803) 548-2366