

# A Quick Look at Air Fryers

## Agent Fact Sheet

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### What is an Air Fryer?

An air fryer is a kitchen appliance that circulates hot air to cook a variety of foods. Despite the name, air fryers do not actually fry foods. They work similarly to a convection oven. Air fryers can be used to prepare foods that are typically fried like French fries or tater tots as well as other foods like chicken breasts and asparagus.

#### What are Benefits of Using an Air Fryer?

- Air fryers use less oil than deep frying, resulting in a product that has fewer calories and less fat than products that are deep fried.
- Air frying does not involve cooking large amounts of oils at high temperatures and may be safer than deep frying.
- Preparing foods with an air fryer may result in easier clean-up than deep frying.

#### What are Disadvantages of Using an Air Fryer?

- Air fryers vary in the amount of foods they can hold, but usually do not have a large capacity.
- Air fryers may not be convenient when cooking for large groups.
- Foods that are air fried have different sensory characteristics than foods that are deep fried. America's Test Kitchen suggests that foods prepared in an air fryer are most similar to foods that are "oven-baked".

### How do Air Fried Foods Compare to Deep Fried Foods?

*Teruel et al. (2015) compared potatoes that were deep oil fried and potatoes that were air fried and found some similarities and differences among products. Some of their findings are summarized below.*

- The oil content of air fried French fries was significantly lower than deep fried French fries.
- The color of air fried French fries was similar to deep fried French fries, but it took longer for the air fried French fries to achieve the same color.
- A sensory panel evaluated the French fry samples for appearance, odor, mouth feel, taste, flavor and after effects. There were significant differences between samples for 22 of 31 attributes, which authors indicate as major perceived differences among the two products.
  - The sensory panel perceived that the deep fried French fries produced an oilier mouth coating and greasy fingers.
  - The sensory panel perceived that the air fried French fries appeared to be more "puffed and dry".
  - The sensory panel perceived that crispness was similar between the two products.

# Things to Consider When Purchasing and Using an Air Fryer

- **Price:** The price of air fryers is highly variable among different models. Consumers should be encouraged to purchase an air fryer that fits within their budget.
- **Capacity:** The amount of food that an air fryer can hold varies. Consumers should consider the amount of people they usually prepare food for and make a decision that best fits their needs.
- **Size:** Air fryers come in varying sizes. Some air fryers also function as other kitchen appliances, such as toaster ovens. Consumers should choose model that can fit on their counter and/or that they have room to store.
- **Warranty:** Consumers should check air fryer models to determine the warranty for various products.
- **Trial and Error:** As with many new kitchen appliances, consumers might want to experiment with time and temperature to determine how to prepare various food items to meet their preferences.



## Conclusion

- Air fryers work similarly to a convection oven, circulating hot air to cook foods.
- Air fryers use only a small amount of oil to prepare foods and can be a healthier alternative to deep frying.
- Air fryers may not be the most convenient cooking method when cooking for large groups.
- Foods prepared in an air fryer have different sensory characteristics than those that are deep fried. Air fried foods are more similar to those that are “oven-baked”.
- There are many models of air fryers available on the market today. Consumers should consider the price, capacity, size and the warranty of various products and choose an air fryer that best fits their needs. There are several reviews of air fryers that consumers can use to help with decision making.

## References & Resources:

- **University of Kentucky Extension:**  
[https://grayson.ca.uky.edu/files/air\\_fryers.pdf](https://grayson.ca.uky.edu/files/air_fryers.pdf)
- **University of Iowa Extension:**  
<https://blogs.extension.iastate.edu/answerline/2017/09/07/air-fryers/>
- **America's Test Kitchen:**  
[https://www.americastestkitchen.com/equipment\\_reviews/1870-air-fryersA](https://www.americastestkitchen.com/equipment_reviews/1870-air-fryersA)
- **Consumer Reports:**  
<https://www.consumerreports.org/cro/air-fryers/buying-guide/index.htm>
- Teruel, M.R., Gordon, M., Linares, M.B., Garrido, M.D., Ahromrit, A., Niranjana, K. (2015). A comparative study of the characteristics of French fries produced by deep fat frying and air frying. *Food Engineering & Materials Science*; 80(2):E349-E358.

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