HENNY PENNY
Global Foodservice Solutions

12.06
White paper

Manage Your Oil for Healthier, More Profitable Frying

Executive Summary

Plenty of bad news has been published recently about deep frying and the detrimental health effects of trans fats commonly associated with frying oils. What is rarely pointed out in the popular press is that the nutrition value in deep fried foods varies widely in practice and depends on the type of food, the quality of cooking oil, and frying time and temperature.

Many foodservice operators with a frying program are aware of alternative zero-trans fats cooking oils, but are concerned about the higher cost.

It is true that frying oil is typically the largest cost component in a frying program. That makes it all the more important for operators to maximize its useful life. By adopting good oil management practices, operators can extend the life of frying oil by a significant amount. These savings can be put toward healthier frying oils and more efficient fryers which reduce oil consumption even further. Thus, operators can begin to serve healthier fried foods *and* earn a reasonable profit.

Good oil management practices begin with an understanding of what common conditions break down cooking oil and how to counter them. Frequent filtering is the best way to preserve oil quality. Fryers with built-in filtration systems make filtering fast and easy. Oil testing and filter media selection are also important elements of good oil management.

Producers of cooking oils have recently introduced popular blended oils that offer low or zero-trans fats in a highly stable form. Make sure your suppliers are working to help you obtain the frying oil and fryers that are right for your menu, volume and labor/training situation. You *can* fry healthier and make more money doing it!

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Manage Your Oil for Healthier, More Profitable Frying

Introduction

Like it or not, commercial frying is a fundamental method for preparing popular, inexpensive restaurant food. Why the qualification? Alongside the two other most common cooking methods—grilling and baking—frying has acquired the reputation of being the least healthy. In the wake of the latest wave of publicity and hand-wringing over the dangers of trans-fats, deep frying has again been held up as the bad boy of commercial cooking.

There is both good news and bad news in this for people who enjoy fried foods and for the vast number of restaurants and foodservice suppliers that depend on frying for a major source of business activity.

The bad news, of course, is just that. All the negative press surrounding trans fats has rekindled a public-sector panic about the problem of obesity in this country, which in turn is increasingly being blamed on the purveyors of fried foods. Obesity in the United States is not a new problem. And trans fats and frying are certainly not the only culprits and may not even be a significant contributor. (Excessive amounts of sugars and carbohydrates, lack of exercise and behavioral issues are some of the others.) Yet, this summer the Chicago City Council has seen fit to propose a ban on the use of oils containing trans fats in restaurants.

The good news is that all fried foods are not created equally. There are good frying habits and bad frying habits. And some that are downright awful. Good frying habits include using healthier high quality oils, filtering frequently, discarding degraded oil, and using fryers that recover temperature quickly. Good frying habits produce fried foods that look better, taste better and are better for you.

Restaurant operators faced with doing good or earning a living will wonder how much the choice is going to cost them. That's where the news gets even better. With the right

equipment and proper oil management practices, operators will not only serve a healthier, tastier product but will earn *more* money doing it!

How is this possible?

Aside from the food, frying oil is by far the most expensive component in a frying program. Good frying oil management practices extend the optimal life of oil significantly. Better oil, even though it costs more, will last even longer under better-managed conditions. Most operations begin saving money on oil immediately.

And that's just the beginning. These savings will pay for top of the line fryers capable of extending oil life even further while using much less energy in the process. Fryers with built-in filtration, for example, also save time. Loads and loads of it. Less labor, more loads per hour. Longer oil life. Better food. More customers.

* * *

Making your oil last longer

There are three common chemical reactions that contribute to the break down of cooking oil.

Oxidation

Oxidation occurs when frying oil comes in contact with air. Since frying oils are made up of organic compounds, the oil is essentially "spoiling." Oxidation is catalyzed (increased) at high temperatures and by large-surface exposure of oil to air, longer idle periods, metal alloys, foreign matter and even UV light. In general, antioxidant additives can delay the onset of excessive oxidation and help maintain product shelf-life.

Hydrolysis

This reaction is caused by water interacting with frying oil and gives cooked product a tainted or acidic flavor. Acids, high temperatures, high oil-turnover rate, increasing the number of heating and cooling cycles of the oil, foreign matter, products of oxidation, some emulsifiers, caustic soda, and metal alloys can all exacerbate hydrolysis.

Polymerization

As frying oil deteriorates, non-volatile (reactive) compounds are also formed. These molecules remain in the frying oil and begin "polymerizing" or bonding together at high oil temperatures to form clusters that accumulate on the oil's surface. These particles are large enough to cause foaming and increase the possibility of hydrolysis.

The first thing to keep in mind when taking better care of your frying oil is that normal conditions associated with the rigors of commercial foodservice frying are actually working to break down your frying oil all the time.

The enemies of frying oil

1. Air
2. Heat
3. Moisture
4. Food particles
5. Trace metals
6. Cleaning agents

Simple **exposure to air** oxidizes frying oil. It is important to keep fryer wells covered when they are idle or off. This is also a good way to prevent contaminants from accidentally falling into oil.

Oil oxidizes faster at **higher temperatures**. The optimal oil temperature range for most commercial foodservice is 325-350°F (163-176°C). Increasing the frying temperature from 325°F (163°C) to 350°F (176°C) more than doubles the oxidation rate, so it is important to carefully select cooking temperatures even within the normal range.

Contact with moisture is arguably the biggest culprit in the deterioration of cooking oil. Obviously, it is unavoidable since the cooking process itself is mostly a matter of heating and extracting high levels of moisture from raw or frozen food product. Loading fry baskets away from the fry well is a good way to avoid adding unnecessary liquids, ice crystals or particulate matter to the cooking oil.

Food particles, as well as trace metals from chemicals or alloys that come in contact with frying oil, promote oxidation and polymerization by introducing both reactive and non-volatile compounds. Frequent filtration and periodic skimming of oil surface go a long way in reducing the negative effects of these contaminants.

Caustic sodas and other chemical traces left over from **cleaning agents** also contribute to the early breakdown of frying oil. Use only the cleaning solutions recommended by the fryer manufacturer, and follow the directions carefully.

There are a wide variety of oils and shortening products available for commercial frying. Later in this paper, we will compare some of their more relevant characteristics. When making decisions about frying oils, keep in mind that there is almost always a trade-off among attributes of flavor, healthiness, stability and cost. For example, saturated (animal) fats are intrinsically more stable then unsaturated (vegetable/nut) oils. Yet from a consumer health perspective, saturated fats and partially hydrogenated (semi-solid) unsaturated oils are known to produce unacceptable levels of unhealthy trans-fatty acids.

Regardless of the type of shortening or frying oil in use, proper oil management will delay its breakdown, lower the cost of frying programs and improve the end product. Moreover, these practices will have a proportionately greater effect on less stable but healthier, frying oils.

Older, degraded frying oil is also more easily absorbed into food because much of its original molecular structure has broken into smaller components that combine readily with other substances. Keep in mind that the benefits of frying with healthier oils that break down faster will be lost if the oil is not filtered regularly and discarded on time.

Adopting the following cooking and cleaning practices will extend the life of your oil and help offset the cost of frying with oils that are low in trans fats.

Eight steps to managing your oil for longer life and better fried products

1. Do not fill fry baskets directly over hot oil. Crumbs and small particles will fall through the mesh basket and remain in the hot oil. This contributes to oil degradation and reduces the overall quality of the oil. Use a mesh skimmer to frequently remove particles and crumbs that remain in oil after removing baskets.
2. Do not cook at temperatures exceeding 360ºF (182ºC).
3. Reduce oil temperature to 280ºF (127ºC) during slow activity periods.
4. Do not season foods over the fryer. Salt, in particular, causes oil to deteriorate more rapidly.
5. Keep the fry pot filled to the required capacity.
6. Filter oil regularly. When preparing fresh breaded products, filter the oil after every fourth load. If cooking smaller portions, filtration can be extended to a minimum of once or twice per day.
7. When cleaning the fryer, filter components, baskets, etc., thoroughly remove all detergent and moisture. Rinse fry vat well with water and vinegar. This solution helps neutralize and chemicals remaining from cleaner. Dry completely before refilling with oil.
8. Cover fryers after shutdown to reduce oil contact with air and to keep foreign particles out of oil.

* * *

Filtration

Establishing a filtration procedure

Filtering hot oil regularly is both the most effective and can be the most economical means of extending the life of your frying oil. But like any good habit, it helps to be consistent. In fact, in busy QSR environments or high-volume deli or institutional kitchens it is critical to establish and follow a strict filtration schedule. Without an established procedure, you can easily find yourself in the position of cooking with inferior oil in the middle of a peak meal period. Oil will be discarded either too late or too soon, playing havoc with the quality of the food served and the economics of your frying program.

Frequency of filtration is generally a function of cooking volume and the type of food being fried. Pound for pound, more loads of French fries can be cycled between filtering because they produce little fall-off and are normally cooked in deep, narrow baskets. When cooking fried chicken, fish or other breaded product you will need to filter more often. These items produce more fall-off and are usually cooked in smaller loads for best results.

When establishing a filtration procedure, use a simple oil quality testing device to adjust general manufacturer's guidelines for filtering frequency to the specific circumstances of your own operation.

Built-in filtration—a must

These days any stand-alone commercial deep fryer or pressure fryer worth the money will have some form of built-in filtration capability. This is not an idle characterization. To manage your frying oil for savings you have to filter frequently. To filter frequently, it must be economical to do so. And that means it has to be quick and simple.

A fryer with a good filtration system should be able to drain, filter and return 60 lbs. of filtered shortening or frying oil back to temperature in five to eight minutes. Such systems save on labor and are much safer for employees than manual procedures or even older style portable filter units designed to service multiple fryers. Many built-in systems require only that the operator turn a handle and press a button. When the filtration cycle is activated, used shortening drains into an enclosed pan through a disposable filter. A switch-activated pump returns hot filtered shortening to fry pot for immediate use.

Filtration media

The various factors that degrade frying oil do so at different rates and under different circumstances. Good oil management seeks to counter these factors using technology and procedures that always yield a net benefit in cost. Filter media play a key role in extending the useful life of frying oil. But research has shown there to be significant differences in the number and kind of contaminants that are effectively removed by various filtration media on the market.

Filter paper or pads treated with a common filtration additive such as activated carbon is a popular, low-cost medium that has proved effective in removing alkaline metals (salts) that stimulate production of free fatty acids (FFAs)—the protein molecules that are commonly used as a measure of oil quality. More recent research indicates, however, that testing for FFAs masks the real culprits behind oil degradation and possible detrimental health effects associated with foods fried in poor quality oil. A summary of a 2000 University of Minnesota research report noted:

> ***The toxicity and off-flavors of heated oils reside in the peroxides primarily and not the free fatty acids. Unfortunately, the FFA content of oils has become a commonly used measure of quality, primarily because it is easy to determine…. FFAs are not toxic as dietary components, nor are they important to quality, per se….***

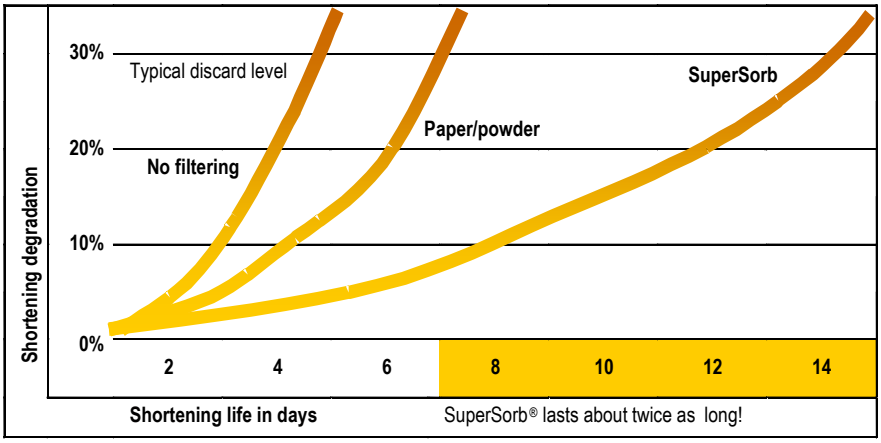
The testing showed that a carbon-type filter pad with certain binding additives also reduced FFAs, but did a much better job of reducing or removing peroxides, polars (charged particles) and damaging trace metals such as iron and copper that actively produce peroxides in oil.

Lead researcher in the project, Paul Bradley Addis, wrote:

As discussed in the report, we believe the benefits to the food, the consumer and the restaurant of reducing peroxide value, reducing total polars, conserving oil and maintaining favorable oil color are more important from an economic standpoint than reducing free fatty acid levels.

Busy restaurant operators may not find the science behind filtration all that helpful. But it is becoming clear that certain carbon treated filtration media are far more effective at neutralizing those factors that contribute most to oil loss, poor color and toxicity. Among other things, the research seems to confirm that oil color may in fact be the most reliable day-to-day indicator of overall oil quality. The filter media that maintains good color longer is preserving the quantity of frying oil *at optimum levels* and, thus, saving you money (Fig 1.)

Fig 1 Better filter media extends oil life



Manufacturer's test show SuperSorb® filter pads significantly extend oil life at the optimum range of cooked product quality.

* * *

Disposal

A successful oil management program will always include a method of safe, proper oil disposal. The bad news is that, for the most part, disposing of spent frying oil is still a fairly labor intensive task. The good news is that the better you manage your oil, the less often it needs to be done.

When to discard?

Assuming good oil management, the frequency of disposal points varies with the frying program. An operation with intense periods of frying followed by long periods of inactivity will likely need to dispose more frequently than a constant, high-volume operation where fryers are constantly in cooking mode. In these situations, less heating

and cooling of frying oil, as well as frequent filtration and add-backs tend to prolong the point of exhaustion.

The simplest, most effective way to determine when oil must be discarded is to use an oil quality test kit. Most kits employ an acceptable oil color range against which a drawn or dipped sample is then compared (Fig 2.)

Fig 2 Oil quality testing

Simple inexpensive test kits can help you determine the general quality of your frying oil by comparing it against color standards. Many convenient testing services are available to provide a detailed compositional analysis.

Methods and rationale

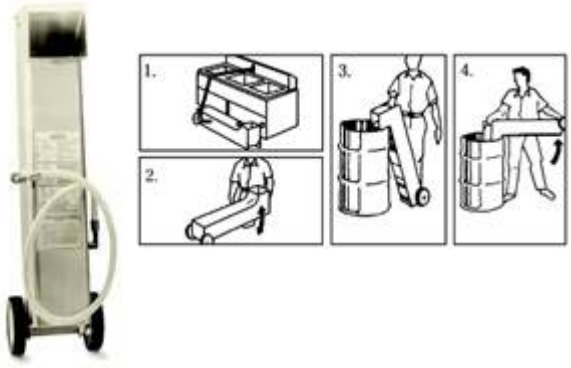
In practice, many low-volume frying operations still have employees haul open drain pans or buckets out back and lift them to pour into disposal drums. Most fryer manufacturers offer handy devices, called shortening caddies or shuttles, that drain and transport waste oil from fryers to disposal drums with much less effort (Fig 3.)

Many QSR operations with multiple-fryer lines opt for an automatic oil disposing system. Fryers equipped with a direct disposal feature drain directly into a common line that feeds directly into disposal drums.

Again, the choice of disposal methods should combine economics and safety. For multi-unit, high-volume QSR applications, the direct disposal option makes sense when compared with the cost of labor and training across the total number of disposal points. On the other hand, the small restaurant owner who takes care of his frying oil and only needs to dump it once a week is justified in not paying to automate what is merely an occasional unpleasant task.

Fig 3 Shortening disposal

A typical shortening shuttle, designed to drain and transport spent frying oil and make it safer and easier to dispose of.



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Earning money with a good fryer

Spending more than you normally would on top of the line equipment will save you money in the long run. What foodservice operator hasn't heard that claim yet today? Let's take a look at it.

Remember, we're only interested in spending good money on a fryer with features that clearly reduce our outlays on frying oil or other measurable component of overhead that we are *already* paying for. This could include direct energy savings and labor reduction, although we will attempt to restrict the discussion to how these savings relate directly to our main goal of reducing frying oil consumption.

Cool zone

A good oil-saving fryer will feature a cool zone at the bottom of the vat where fall-off and cracklings can settle without burning up or scorching the vat. The floor of the vat bottom is a shallow V or convex shape in order to gain the advantage of a cool zone without adding unnecessary oil capacity to the vat. This zone must be located *below* the heating elements. Any design—gas or electric—with elements heating the bottom of the fry vat will produce the opposite effect. Particulate matter will settle in the hottest part of the vat and burn, releasing the worse sort of oil-degrading contaminants.

Automatic filtration request

We have already made the case for built-in filtration. With some fryers, computer controls that record cooking data also enable an automatic filtration request, sometimes known as "force filtering." The concept is simple. After so many loads, the fryer control will flash a request to the operator to activate the filtration cycle. The force filter function usually includes a choice of settings that make it a simple reminder, a warning with lockdown and employee override, or an imperative. The oil management benefit of maintaining a consistent filtration procedure is therefore, more or less, insured.

Operating efficiency/temperature recovery

We now arrive at the true measure of a fryer: temperature recovery. Ideally, a fryer should recover its oil temperature by the time a load of product is done cooking. This would enable it to reach its theoretical maximum operating efficiency in loads per hour. In practice, this level of performance is rare. Moreover, there are limiting factors to the main determinants of temperature recovery—energy input, vat capacity, and heat transfer efficiency—that result in most fryers trading one benefit for another in order to attain a reasonable recovery rate.

For example, an average heat transfer design can be overcome by either increasing the power required to heat the oil or by increasing the oil capacity of the vat. (Additional oil acts as a heat sink, storing heat and reducing the initial temperature drop.) In the former case, energy is being wasted. In the latter, oil.

Fryers with excellent heat transfer efficiency (as indicated by low exhaust gas temperature) can achieve high recovery rates with less oil capacity. In addition, energy

input rating becomes less of a factor. Higher input at high efficiency results in faster recovery, at which point the heating elements cycle off and energy demand ends. Lower energy input at high efficiency simply results in somewhat slower recovery. The energy input can be matched to the typical frying application for which the fryer is designed and sold.

Because of the complexity of the mechanics and the high degree of variability in real-world applications, so-called "efficiency percentage" claims made in manufacturer's literature are not very helpful. A few years ago, the ENERGY STAR® mark www.energystar.com began to be awarded in the commercial fryer category. Fryers that earn the mark are among the most energy efficient available. Also, recent independent tests published by foodservice associations and energy concerns www.fishnick.com can help operators learn more about what to look for in oil-conserving, energy efficient fryers.

Oil temperature control

Along with sustained temperatures of over 370°F (188°C), frequent and significant changes in temperature contribute to the breakdown of frying oil. Fryers with computer controls will sometimes have an **"idle" function** designed to automatically lower oil temperature to around 250°F (121°C) after an hour or so of inactivity. Keeping oil warm but not hot when temporarily not in use is the optimal combination of energy and oil management.

Similarly, a **"melt" mode** is an energy efficient feature that is really an oil-conserving feature in disguise. Rather than simply powering up from cold to frying temperature, melt mode is a programmed warm-up designed for liquid, creamy oils or semi-solid shortening that begins with a more gradual heating of oil. It's a better use of energy and a much better way to treat frying oil.

Some fryers even have a **load compensation** feature, which automatically adjusts the cooking time to compensate for the size of the load (indicated by initial temperature drop.) This feature makes the common practice of raising cook temperatures to compensate for larger loads unnecessary. The latter action is far less precise and can easily result in unnecessarily high cooking temperatures that break down oil and overcook the outside, breaded portion of product adding more contaminants to the oil.

Advantages of pressure frying

Many popular deep fried foods—notably chicken and other proteins—taste as good or better when prepared in a pressure fryer. In general, pressure fried foods contain less fat than the same items open-fried. Pressure fryers also consume less oil than open fryers:

Pressure fryers:

1. Are able to cook the same quantity of food in less oil than open fryers.
2. Cook faster at lower temperatures than open fryers.
3. Lose less oil through absorption into food than open fryers.

True pressure frying creates a pressurized vapor barrier between the oil and the lid of around 12 psi. The mechanics of heat and pressure produce better heat transfer, allowing

food to be cooked optimally at lower temperatures in less time and in less oil. A pressurized cooking environment also forms a seal between oil and food, allowing less moisture to escape from food and less oil to be absorbed in its place. This "sealing" action is what gives pressure fried chicken its naturally juicy, less greasy flavor.

Pressure frying does not work as well for product like French fries, since the ideal finished fry must cook off more than 30% of its moisture content to be crisp. Even so, in small pressure-fried chicken operations it is a simple matter to cook the occasional batch of French fries with the lid up.

In larger operations with multiple fryers, it should be possible to justify the additional cost of making at least one of those fryers a pressure fryer dedicated to chicken and other proteins. The oil and energy savings could be significant. A free benefit riding along is the healthier fried products produced through pressure frying.

A Case

To demonstrate the profitability of healthy frying, we'll use the real example of a regional QSR chain whose footprint typically called for a bank of 4 gas fryers, each with 90 lb. shortening capacity. After studying the chain's equipment and practices, it was determined that substituting the existing fryers with 4 Henny Penny OFG-320 series fryers would result in an annual reduction in the overall operating cost of the frying program of $11,405 per store, beginning in the first year.

Savings breakdown:

- Reduce shortening usage by 64% or $7,659 per year
- Reduce natural gas costs by 46% or 1,950 per year
- Estimated maintenance savings of $1,796

Reduce shortening usage by 64% or $7,659 per year High efficiency operation results in equal or better recovery time with Henny Penny 65 lb. (30 kg) vat capacity vs. 90 lbs. (41 kg) cooking 50 lbs. (23 kg) of frozen steak fries per hour. This produces a direct savings of 9,000 lbs. (4,100 kg) of shortening per year. Current practice consisted of periodic portable filtration and rotating oils down the fryer line with the disposal of 90 lbs. (41 kg) (one vat) per day. Built-in filtration (standard) with 5-7 minute forced filtering and load compensation features is estimated to double the average 4-day oil life to 8-days without rotation, resulting in 11,700 lbs. (5,312 kg) annual oil savings. Total oil savings of 20,700 lbs. (9,400) at $0.37 per lb., or $7,659 per year.

Reduce natural gas costs by 46% or $1,950 per year Excellent heat transfer efficiency of the Henny Penny fryers keeps exhaust gas temperature below 500°F (257°C). Based on a published natural gas industry study, the exhaust gas temperatures of the Henny Penny 320 never rose above 500°F (257°C). The exhaust gas temperatures for the existing fryers, which were also part of the study, were near or slightly above 900°F (482°C) about half the time. This difference indicates much greater heat transfer efficiency in the Henny Penny fryers. Using standard EPA and DOE calculators, the 4 Henny Penny fryers would save 1,849 therms of natural gas, or $1,955 per year, per location at February 2006 prices. Moreover, the Henny Penny fryers were calculated to reduce greenhouse gas emissions by 21,476 lbs. (9,750 kg) annually, from just one location—equivalent to taking 15 cars off the road.

Estimated maintenance savings of $1,796 This figure is the difference in retail cost if Henny Penny were replacing (1) computer board and (2) basket lift motors rather than the current fryer manufacturer.

* * *

Toward healthier, more profitable frying

At the beginning of this paper, we made the claim that producing healthier deep fried foods can actually be *more* profitable for a foodservice operation by basing the frying program's financial model on reducing outlays for frying oil. The pages that followed showed how good oil management practices and better equipment can accomplish this. In the case study, we showed an example of the annual dollars one regional QSR chain was likely to earn back from the bottom line with such a focus.

In this section, it's time to take a closer look at precisely how good oil management practices result in healthier, better-tasting fried products.

The emergence of useful zero-trans fat commercial cooking oils is probably the best opportunity for restaurants and delis serving deep fried foods to respond with a healthier product. Taking care of that oil, using fresh (not commercially frozen) foods, and cooking more foods in a pressure fryer are all ways to reduce the fat content in the final fried product.

Here are a few things to consider when evaluating commercial deep frying oils for healthier alternatives.

- **Newer low or zero-trans fat oils** such as high oleic canola and low linolenic soybean exhibit good stability and frying properties without the need for hydrogenation.* These are currently being evaluated for frying by a number of restaurant chains.
- **Alternative oils generally cost more per pound**, mostly due to the economics of lower volume and the need to segregate during growing, transport, storage and processing. Some costs are likely to decrease over time as acceptance grows.
- **Flavor profiles can change** from oil to oil. Different oils have different indigenous flavors which can be imparted to foods. Differences are usually slight. Also, food flavor may be affected when switching to non-hydrogenated oils that are less stable if the discard cycle is not also adjusted.
- **Fresh foods fried in zero trans fat oils will be lower in trans fats.**† However, the percentage of absorption by food weight can vary enormously, depending on the type of food, quality of frying oil, temperature and pressure. As oil breaks down it is absorbed more easily. Frying under pressure is known to reduce oil absorption.

**Examples are Amazing Fry NT™, a corn oil & high-oleic canola oil blend, and Nutra-Clear NT™ high oleic canola oil. Both products are offered by Bunge Oils, 1-800-828-0800 or www.bungeoils.com*

† *Products fried in zero trans fat oils may still contain some trans fats. A small percentage of trans fats occur naturally in certain foods. In addition, the FDA permits a designation of "zero" for trans fat content below 0.5 grams per serving.*

Properties of cooking oils can vary widely. Industry experts suggest that restaurant frying oils are selected mainly for their stability. For this reason highly unsaturated oils

such as pure canola oil are less popular because they break down more quickly. In fact, the process of partial hydrogenation, shown to be responsible for producing trans fatty acids in most oils, was developed to add stability and increase shelf life to common shortenings.

Healthier commercial options do exist, says Richard Stier, director of technical services at the Agriculture-Led Export Business in Cairo, Egypt. “Operators should look for oils with high oleic and/or low linoleic fatty acids to utilize a more healthful, more stable cooking oil that does not turn rancid as quickly.”

Today there are more and more blended shortenings being marketed that combine the inherent stability of corn, soybean or safflower oils with the characteristics of low or no TFA oils such as canola. For high volume frying operations, these blends may be the best solution in balancing health benefits with durability as it relates directly to operating costs. Figure 4 below compares several commonly used oils across the three most important selection criteria.

Fig 4 A relative comparison of common oils

Oil	Stability	Nutrition	Price
Hi-Oleic Canola	▲▲▲▲	♥♥♥♥♥	$ $ $ $ $
Low-Linoleic Soybean	▲▲▲	♥♥♥♥	$ $ $ $ $
Partially Hydrogenated Soybean	▲▲▲▲▲	♥	$ $
Partially Hydrogenated Canola	▲▲▲▲▲	♥♥	$ $ $
Peanut*	▲▲▲▲▲	♥♥	$ $ $ $
Corn**	▲▲▲	♥♥♥	$ $ $
Sunflower	▲▲	♥♥♥	$ $ $
Salad oils***	▲	♥♥♥	$

This relative comparison chart shows that hi-oleic canola and low linoleic soybean offer the best balance of stability, nutrition and price for general-use deep frying oils in moderate to high volume operations.

*Peanut oil should only be used when peanut flavoring is desired.
**Corn oil offers an excellent fried food taste profile and is often blended with other oils for this reason.
***Salad-type oils are inherently unstable. The short life span and resulting poor quality tend to erase any perceived gains in nutrition or price.

Beyond Trans Fats

The current preoccupation of the public health sector with the amount of trans fatty acids in frying oil products can be misleading. First, the health concerns should rightly be focused on the relative quality of the cooked product. At typical frying temperatures, the amount of oil absorbed by food can vary from 5% to 40% by weight of the food. This suggests that certain fried foods can be significantly better for you than others. Secondly, as oil degrades, its chemical composition changes, generating a variety of hazardous or toxic compounds from trace metals and other volatiles to potentially carcinogenic polymers. Food cooked in “bad” oil will be absorbing these contaminants in the ratio they are present in the oil. Most are far worse for you than trans-fats. Moreover, these chemical changes allow oil to be absorbed more easily into food the further it degrades; along with TFAs, you get an increasing percentage of toxic compounds.

What does it all mean? The path to healthier fried foods lies primarily in making sure your oil management practices are at least humane. (The sad truth is, there seems to be plenty of anecdotal evidence showing that many foodservice operations either don't know they are frying product in inedible oil or don't care.)

Good oil management means being aware of the differences in stability when selecting frying oils and conforming filtration and disposal practices to these characteristics. When working with new or different oils, test the oil quality every day until degradation characteristics and disposal points are well understood with regard to your specific frying program.

* * *

Conclusion

With today's products, technology and nutritional resources available, there is no reason why any foodservice establishment should fail to offer its customers the healthiest deep fried products possible and earn a profit doing so. The main thing that is required is for operators to understand the crucial role that reducing oil consumption plays in the economic model, and the cascading benefits that arise from good oil management:

…Healthier fried foods

…Safer working conditions

…Cleaner environment

Employing good oil management is a win/win situation. Don't let the price tag keep you from getting started—you can begin taking better care of your oil any time, without changing everything around. And as you begin to see the limitations in your current equipment and practices, work with your suppliers to develop a plan that will demonstrate precise annual savings through reduced shortening consumption. Put their feet to the fire. And if they can't or won't deliver, get new ones.

It's time foodservice operators took responsibility for putting out a healthier deep fried product. It may be a while before quality deep fried food enjoys a better reputation in the marketplace as a whole. But in the meantime, you can build your own reputation for serving healthier, great tasting fried foods and spend less every year than you are now.

For information on healthier deep frying, please contact: Tim Kasler, Henny Penny, (937) 456-8440, tkasler@hennypenny.com

Visit Henny Penny at www.hennypenny.com

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