Omega-9 Oils is uniquely capable of contributing to a sustainable future through innovation and collaboration. First, plant breeders applied their expertise to improving the fatty acid oil profile in canola. Then, we partnered with farmers to grow the seeds and with the top processing companies to ensure availability for the food industry. Omega-9 Canola Oil contributes to sustainability by supporting healthy consumers, healthy farmers and a healthy planet and healthy fats.

While taste continues to be the top driver of food choice, increasingly consumers want to buy products that help themselves and food companies reduce food waste. Better nutrition cannot benefit the growing population when it doesn’t taste good and has to be disposed of too quickly. Extending how long quality ingredients like oil last, not only supports better diets, but also decreases the cost and environmental impact associated with excess food waste.

Traceable ingredients are increasingly important in North America where consumers have questions about where their food comes from. By offering a traceable supply of Omega-9 Canola Oil, we can meet consumer demand for supply chains that produce healthy ingredients. Here are a few ways Omega-9 Canola Oil is helping meet these goals:

**Delivering Longer Fry Life and Fewer Oil Changes Without Sacrificing Taste**

- With Omega-9 Canola Oil, foodservice operators can cut oil changes in half. On 1 million pounds of oil, for example, that is 14,000 fewer jugs in boxes (JIBs) that have to be packaged and disposed of.

- A large Arby’s franchise in Richmond, Virginia — which includes five of the top 10 highest-grossing Arby’s in the nation — switched to Omega-9 Canola Oil, and the number of oil changes at its restaurants decreased 63 percent per week.1

- A popular drive-in, quick-service restaurant decreased its oil use 40 percent annually by using a blend including Omega-9 Canola Oil.2

**Creating Longer-Lasting Food Without Artificial Preservatives**

- Omega-9 Oils can help maintain the shelf life that keeps packaged foods fresh.

  - **Without the Artificial Preservatives** that many consumers today perceive as unhealthy.

  - **With Artificial Preservatives**

- For about half of consumers, free from artificial ingredients, preservatives or additives

  - “IS ONE OF THE TOP RANKED DESCRIPTORS OF HEALTHY FOOD.”3

  - Omega-9 Canola Oil helps meet consumer expectations while contributing to longer-lasting food and leads to less food waste.
MEETING DEMAND FOR HEALTHY FOOD

For a majority of consumers, 84%, TASTE IS STILL THE PRIMARY DRIVER of food purchasing decisions.¹

REPLACING TRANS FATS

Food cooked in Omega-9 Canola Oil scores on par with, or better than, other cooking oils for overall liking, taste, aroma and mouthfeel – EVEN AFTER DAY 10 OF FRYING WITH THE SAME OIL.²

EXPANDING MARKETS

HEALTHY FARMERS

The future of our global food system depends on maintaining our farms of today so we have enough land, knowledge and people to meet the needs of tomorrow. We can do that by providing farmers with seed technology that helps them meet consumer food demands and government requirements and fits within their environmental realities (e.g., growing season, moisture, temperature, etc.). When we offer value-added opportunities, such as growing Omega-9 Canola Oil for the food industry, it helps provide increased income and an expanded market at harvest, which also helps attract the next generation to farming.

The combination of data, innovation and adaptation demonstrates the nimbleness and excitement that are so integral to agriculture today and helps attract the next generation of farmers who are looking to make their mark.

MEETING DEMAND FOR HEALTHY FOOD

The number of Americans citing “healthfulness” as a top factor influencing food purchases increased from 60 PERCENT TO 64 PERCENT between 2015 and 2016 and maintained in 2017 — only trumped by the consistent No. 1 factor, taste (84 percent), and price (at about 66 percent, a decline from 2016).¹

The 2015 Dietary Guidelines for Americans call for replacing saturated fats with heart-healthy unsaturated fats.

MORE THAN THREE-QUARTERS (76 PERCENT) of Americans report making small changes to achieve an overall healthier diet.¹

51 percent of Americans report saturated fats are unhealthy, and as a result, 44 PERCENT report trying to limit/avoid saturated fats.²

RESPONDING TO POPULATION GROWTH

MORE THAN THREE-QUARTERS (76 PERCENT) of Americans report making small changes to achieve an overall healthier diet.¹

OFFERING HIGH STABILITY OIL

MujED9 Canola Oil provides a functional, heart-healthy alternative to oils that are partially hydrogenated or high in saturated fats.

With Americans averaging 11 percent of calories from saturated fat daily, switching to Omega-9 Oils resulted in meaningful cardiovascular risk reduction for more than 14 million people.

OMEGA-9 OILS ARE GROWN UNDER A CLOSED LOOP SYSTEM. THIS MEANS THE CROP, HARVESTED SEEDS AND RESULTING OIL ARE KEPT SEPARATE FROM OTHER CROPS. THIS SEPARATION PRESERVES THE QUALITY OF THE CROP AND THE RESULTING OIL.

Dow AgroSciences partners with five major oilseed processing companies to produce Omega-9 Canola Oil. These partners supply more than 80 percent of all North American canola oil annually.

Dow AgroSciences partners with major oilseed processors, which then contract with farmers to plant NEXERA™ seeds to meet food industry demand for Omega-9 Canola Oil.

84 PERCENT
THE PRIMARY DRIVER
100 PERCENT
THE PRIMARY DRIVER
84 PERCENT
THE PRIMARY DRIVER

The demand for traceability is growing among consumers. Traceability is one of the sustainability claims driving +7.2 percent sales growth.

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In 2015, the U.S. Food and Drug Administration took steps to remove artificial trans fat from the food supply in an effort to reduce coronary heart disease and prevent thousands of fatal heart attacks every year.³ Health Canada followed suit in September 2017, banning partial hydrogenation to eliminate trans fats in the diet.

Providing Traceability

PRESERVING IDENTITY

PARTNERING WITH SUPPLIERS

CONTRACTING WITH FARMERS

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Increasing Revenue

PRODUCING COMPETITIVE YIELD

The NEXERA canola program offers farmers a premium, flexible delivery option and a better view of their profitability.6 Trial results have shown that canola hybrids in the Nexera program are very competitive with the highest yielding commodity canola hybrids. With strong competitive yields and disease resistance, Corteva Agriscience, Agriculture Division of DowDuPont offers hybrids in the Nexera program that are well adapted for its primary canola growing environments.

DELIVERING PREDICTABLE PROFIT

Oilsseed processing partners offer a variety of incentives for closed loop system growers in the Nexera program, including a significant premium on harvested seed.

Attracting the Next Generation

CREATING MARKET MOMENTUM

Across North America, the farmer population is aging and declining. The number of farmers in the U.S. who have been on their current operation for less than 10 years was fell 20 percent from 2007 to 2012, while the total number of Canadian farmers declined by nearly 6 PERCENT FROM 2011 TO 2016.7

FARMER TESTIMONIALS

“I was intrigued by some of the health benefits of the omega oils, and the fact that many of the large canola users are switching over to the healthy stability oils. And top that off with the health benefit premium that’s offered to the producer for this product ... it’s been quite favorable from a yield perspective and from a profit margin perspective.”

Jordan Kambeitz, Kambeitz Farms near Sedley, Saskatchewan

“Which sets the canola hybrids in the Nexera program apart for us is its consistent performance year in and year out, relative to everything else, as well as the demand for it and the premium that’s attached to it.”

Mike Keating, Keating Seed Farms near Russell, Manitoba

“ATTRACTION AND SUSTAINING the next generation of farmers requires a promise of innovative solutions, market opportunities, and continuous improvement, which the NEXERA™ program can help farmers of all ages experience.

HEALTHY PLANET

It is critical to preserve the natural resources with which our food is grown. Canola not only embodies the advancements of modern crop technology, such as improved yields, decreased tillage and decreased chemical applications, but also offers unique benefits. For example, canola is very well adapted for its environment, and therefore, requires little to no irrigation, reducing water use. It also fits well into rotations with other common and popular crops, supporting soil health and ecological diversity.
REQUIRING LESS IRRIGATION

Canola performs well under rainfed conditions if the predominant weather condition is "cool" and seasonal rainfall and soil moisture average more than 15 inches. That is why it is a favored crop on the Canadian prairies and in the North and Mountain West United States.1

Canola requires approximately 16 to 18 inches of water through its growing season, with 8 to 8.3 inches used by annual varieties in July near flower and pod fill.2 A high-yielding corn crop, on the other hand, requires about 22 inches of water,3 with a range of 20 to 25 inches.

ENCOURAGING CONSERVATION TILLAGE

Advancements in seed technology have been it possible for farmers to adopt conservation tillage, which improves soil health and decreases the overall environmental impact of farming. From 1999 to 2006, the average number of times a field was tilled decreased from 2.63 times per year to less than .5 times per year. In other words, MORE THAN HALF of the fields weren’t tilled.6

By 2011, conservation tillage was practiced on more than 80 PERCENT of canola acreage.4 Conservation tillage can reduce fuel and repair costs by approximately 33 PERCENT.5

No-till farming can reduce soil erosion by 90 TO 95 PERCENT or more compared to conventional tillage practices. Continuous no-till can make soil more resistant to erosion over time.1

Supporting Soil Health

BENEFITING FROM HERBICIDE TOLERANCE

Nearly all Canadian canola (95 PERCENT) is herbicide tolerant. That means less frequent tilling, which requires fuel and reduces soil biodiversity and moisture levels. Improved weed control also has improved yields.

The use of herbicide-tolerant canola and the associated reduction in tillage reduced greenhouse gas emissions by about 2.2 BILLION POUNDS OF CARBON DIOXIDE (CO2), the equivalent to removing half a million cars from Canadian roads.

Between 1996 and 2013, herbicide-tolerant canola increased yields per hectare by up to 12 percent or about 8 MILLION TONS. Overall herbicide use in Canada went down — about 18 percent between 1996 and 2012 — while at the same time total canola acreage grew 236 percent.5

PROVIDING MORE OIL PER SEED THAN OTHER COOKING OILS

Canola seeds contain about 45 percent oil,10 while the germ of a corn kernel, where most of the oil resides, is only 11.5 percent of the kernel.11

Canola contains more than 40 PERCENT oil and has a high yield of oil per acre: 127 to 160 gallons per acre, compared to 48 gallons per acre for corn.12

COMPARING TO

Canada 2% Peanuts 32% Corn 15% Cotton 41% Safflower 22% Sunflower 4%

IMPROVING PRODUCTIVITY

Canola yields IMPROVED 52 PERCENT in the U.S. between 2002 and 2016.15

Canola farmers grow more seeds per plant and more plants per acre than ever before.

Improving productivity

Yielding More

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<th>CROP</th>
<th>U.S. GAL/ACRE</th>
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<tbody>
<tr>
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IMPROVING PRODUCTIVITY
HEALTHY CONSUMERS

With a growing global population, it is important to not only raise enough food efficiently, but also to raise high-quality food. Science and experience is showing us that it’s not just about having a sufficient supply, but supplying better nutrition, in the form of food that supports healthy, sustainable lives, especially among vulnerable populations such as children, mothers and aging adults. The Dietary Guidelines for Americans summarized the need aptly when they called for replacing bad fats, such as trans and saturated fats, with good fats, such as mono- and polyunsaturated fats. Trans and saturated fats are considered bad fats because they increase LDL or bad cholesterol, which research has shown increases risk of coronary heart disease. On the other hand, monounsaturated fats provide health benefits, such as protecting against metabolic syndrome and cardiovascular disease. It’s also important to reduce food waste. Better nutrition cannot benefit the growing population when it doesn’t taste good and has to be disposed of too quickly. Extending how long quality ingredients like oil last, not only supports better diets, but also decreases the cost and environmental impact associated with excess food waste.

What is on a food package is almost as important as what is in a package. High stability oils such as Omega-9 Canola Oil enable clean labels by removing the need for artificial preservatives.

Traceable ingredients are increasingly important in North America where consumers have questions about where their food comes from. By offering a traceable supply of Omega-9 Canola Oil, we can meet consumer demand for supply chains that produce healthy ingredients.

Here are a few ways Omega-9 Canola Oil is helping meet these goals:

**Removing Bad Fats from the Diet**

Between 2000 and 2014, Omega-9 Oils replaced more than 1.5 BILLION POUNDS of bad (trans and saturated) fats in the North American food supply.

Substituting a healthy fat, such as extra-virgin olive oil or canola oil, for those containing trans fats could prevent 30,000 to 100,000 premature deaths a year, the American Medical Association concluded in 2013.

With Americans averaging 11 percent of calories from saturated fat daily, switching to Omega-9 Oils resulted in meaningful cardiovascular risk reduction for more than 14 MILLION PEOPLE.

Trans fat reduction has led to tangible health benefits. In New York, between 2002 and 2013, there was a 6.2 PERCENT DECLINE in hospital admissions for heart attacks and strokes among populations living in counties with fatty acid restrictions vs. those without. The decline reached statistical significance three or more years after restrictions were implemented.

**Adding Good Fats to the Diet**

Replacing 5 percent of saturated fats with monounsaturated fats reduces heart disease risk 15 percent, saving $25.7 BILLION in heart disease-related healthcare costs and up to $1.2 billion in work productivity each year.

Recent research showed a significant decrease in abdominal fat and improved metabolic syndrome when Omega-9 Canola Oil was added to the diet. Metabolic syndrome, a cluster of symptoms including elevated blood pressure, blood glucose, triglycerides, low HDL (good) cholesterol and abdominal obesity, affects approximately one in five North Americans and increases the risk for diabetes and cardiovascular disease.

A recent systematic review and meta-analysis found that replacing some dietary carbohydrate and saturated fatty acids with unsaturated fatty acids improved blood glucose control and markers of insulin resistance in small, but clinically significant ways. Specifically, the study authors found:

- When polyunsaturated fatty acids (PUFAs) replaced dietary carbohydrate or saturated fatty acids, improvements were noted in fasting blood glucose, A1C levels, markers of insulin resistance and insulin secretion capacity.
- Compared to carbohydrates or saturated fatty acids, or saturated fatty acids, monounsaturated fatty acids (MUFAs) lowered A1C levels and a marker of insulin resistance.

**Sources**

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HEALTHY FARMERS


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HEALTHY PLANET


HEALTHY FATS


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