



2025 SUNFLOWER & CANOLA

HYBRID & MARKET GUIDE





We are partnering with select canola growers to meet the increasing demands of the aquaculture and human nutrition markets for plant-based long-chain omega-3 sources. Omega-3 canola is revolutionizing how plant-based solutions interact with other segments of the agriculture industry.

Nuseed Omega-3 Canola is processed into our proprietary oil ingredients, Aquaterra® for aquafeed and Nutriterra® for human nutrition markets. Both products are more than just alternative sources of omega-3; they are uniquely rich in total DHA, vital building blocks for good nutrition.

DHA PRODUCTION COMPARISON



PROFIT AND PERFORMANCE FOR GROWERS, VALUABLE NUTRITION FOR ALL.



Interested in growing Nuseed Omega-3 Canola?

Go to Omega3Canola.com to fill out a contract assessment to see if you're a good fit for our program.

CUTTING-EDGE CANOLA HYBRIDS

GENETICS WITH THE MOST ADVANCED
WEED CONTROL SYSTEM

TruFlex
CANOLA

One of the smartest routes to high yield potential is through effective weed control. With improved control of tough weeds, flexibility in spray rates and timing, and higher yield potential through genetics and crop safety, TruFlex® canola can make it happen.



IMPROVED CONTROL OF TOUGH WEEDS

The flexibility of the TruFlex canola system will allow for the control of harder-to-kill weeds like cleavers, foxtail barley and wild buckwheat. It will also help enable season-long dandelion control.



FLEXIBILITY IN SPRAY RATES AND TIMING

TruFlex canola will have a wider application window as compared to Roundup Ready® canola. If weather or a late flush of weeds delays your spray date, no problem – you will be able to spray up to first flower* when applying sequential rates of 22 fl oz/ac. The TruFlex canola system also enables flexibility with your Roundup PowerMAX® herbicide application rate to help get the job done.



HIGHER YIELD POTENTIAL THROUGH GENETICS AND CROP SAFETY

New genetics have packed a lot of yield potential into each TruFlex canola seed. New advances in trait technology will help enable better weed control and crop safety compared to Roundup Ready canola. It's a combination that could give you the opportunity to see much more yield potential at harvest time.

TruFlex
CANOLA

NC527CR TF

Utilizing high yielding Nuseed genetics, **NC527CR TF** now combines the most current multigenic traits for clubroot resistance. A medium-late maturing variety with great harvestability characteristics.

MATURITY: MEDIUM-LATE

- TruFlex® Canola with Roundup Ready® Technology
- Multigenic clubroot resistance
- High yielding
- Excellent harvestability

DISEASE PACKAGE

Blackleg: Multi-gene Resistant
Fusarium Wilt: Resistant

AGRONOMICS

Plant height: Tall
Seed color: Black
Early season vigor: 8
Standability: 7

HARVEST CHARACTERISTICS

Oil content: 7
Straight cut rating: 5.5



MADE IN THE USA

**MADE HERE,
TESTED HERE,
GROWN HERE.**



American farmers can trust the performance of Nuseed sunflower products. Why? Because Nuseed develops all our North American sunflower hybrids right here in the heart of the U.S.A. sunflower growing region. With global responsibilities for sunflower advancements, our Research and Development station in Breckinridge, MN along with testing centers across the sunflower growing region, ensures that our hybrids are built for the Heartland.

With the help of the Nuseed Innovation Center in Sacramento, CA, we are developing the technologies and breeding capabilities to bring the latest

innovations to the U.S. sunflower market. With traits such as Advanced DMR (Downy Mildew Resistance), Phomopsis tolerance along with the herbicide tolerance choices, Nuseed is building hybrids that meet individual needs of growers. In addition, with a wide range of maturities, sizes and oil profiles, Nuseed can satisfy demands of all four key segments of the downstream sunflower market. Look to Nuseed for options in High Oleic, NuSun® (mid-oleic), Conoil (Dehull) and Confection.

Sunflowers tested on acres like yours to ensure they perform on your acres.

HERBICIDE TOLERANT TRAITS

Sunflowers are a non-GMO crop. Through years of selective breeding techniques Nuseed has introgressed the Clearfield®, Clearfield® Plus and ExpressSun® traits into the majority of our hybrids to help growers manage weeds.



The Clearfield® Production System for sunflowers provides growers with broad-spectrum residual grass and broadleaf weed control, including ACCase resistant weeds. The Clearfield system combines high-yielding sunflower hybrids with Beyond® Xtra herbicide tolerance for superior postemergent weed control in no-till, minimum or conventional tillage systems.



To help maximize sunflower yield, rely on the new Clearfield® Plus Production System for sunflower. When paired with Beyond® Xtra herbicide and performance-enhancing methylated seed oil, growers can better manage some of the toughest weeds in their fields.



ExpressSun® sunflower hybrids are tolerant to Express® herbicide. This revolutionary production system offers broad-spectrum control or suppression of broadleaf weeds, a simplified approach for enhanced weed control in sunflower and improved yield potential for a cost-effective crop management solution with complete re-cropping flexibility the following year.



SUNFLOWER HYBRID CHARACTERISTICS

	HIGH OLEIC						NUSUN	CONOIL (DEHULL)	CONFECTION		
	N4H161 CL	NEW N4H205 E	N4H302 E	N4H422 CL	N4H470 CLP	NEW N4H490 E	FALCON	CAMARO II	BADGER DMR	N5H493 CL	PANTHER DMR
MATURITY	ULTRA-EARLY	EARLY	MED-EARLY	MEDIUM	MEDIUM	MEDIUM	MED-EARLY	MEDIUM	MEDIUM	MEDIUM	EARLY
TRAITS	Clearfield/ DMR	ExpressSun/ DMR	ExpressSun	Clearfield/ DMR	Clearfield Plus/ DMR	ExpressSun/ DMR	ExpressSun	Clearfield/ DMR	Clearfield/ DMR	Clearfield	DMR
EMERGENCE	8	8	9	8	8	8	7	7	8	7	7
DROUGHT TOLERANCE	7	7	6	8	7	8	8	8	7	7	6
UNIFORMITY AT FLOWERING	8	8	8	8	9	9	8	8	7	8	7
YIELD FOR MATURITY	8	8	7	8	8	9	8	9	7	8	8
TEST WEIGHT	8	7	7	8	8	8	8	8	7	6	8
DRY DOWN	5	9	8	7	7	6	7	7	7	7	7
OIL CONTENT	6	9	7	7	9	8	7	7	4	3	N/A
LATE SEASON PLANT HEALTH	8	7	7	8	8	8	8	8	7	7	7
STALK RATING	7	8	7	9	8	7	8	8	7	8	8
ROOT RATING	8	8	6	9	8	7	7	6	8	8	7
PLANT HEIGHT	3	6	6	8	7	8	6	6	8	6	6

Hybrid Rating Scale 1=Poor, 9=Excellent
Plant Height Rating Scale 1=Shortest, 9=Tallest



HIGH OLEIC

Developed in the U.S., our high oleic oil hybrids deliver on high-performance agronomics, yield and top-end oil content. The oilseed crush industry requires a minimum oleic level ranging from 82% to 85%.

While oleic levels can vary year to year due to environmental pressure, Nuseed sunflower hybrids target a minimum oleic level of 85% or higher, with some hybrids reaching greater than 90% oleic acid.

High oleic sunflower oil has a neutral taste and provides excellent stability without hydrogenation for the food industry and high oleic sunflower oil offers a trans-fat free oil solution for end use customers. High-oleic sunflower oil is also being used in many of the new plant-based food products.

N4H161 CL

This ultra-early high oleic is the perfect hybrid for Northern climates with short growing seasons or in the High Plains for a double crop option. With a shorter plant height, N4H161 CL has excellent root strength and late season plant health.

MATURITY: Ultra-Early

MARKET: High Oleic

TRAIT: Clearfield

DMR: Yes

- Beyond Xtra herbicide tolerant
- Earliest maturity in the Nuseed lineup
- Excellent yield and oil content for maturity
- Short plant height



NEW! N4H205 E

N4H205 E will flower late, but dries down quick in the fall for an easy harvest. Short and full season growing regions will benefit from planting this late group 2 sunflower.

MATURITY: Early

MARKET: High Oleic

TRAIT: ExpressSun

DMR: Yes

- Express herbicide tolerant
- Excellent oil content
- Strong stalks and roots
- Fast dry down
- Advanced downy mildew resistance



N4H302 E

N4H302 E will not disappoint. Best suited for the northern growing regions, this hybrid performs well from east to west. N4H302 E impresses producers all season long with its early season emergence and excellent oleic content at harvest.

MATURITY: Medium-Early

MARKET: High Oleic

TRAIT: ExpressSun

DMR: No

- Express herbicide tolerant
- Excellent high oleic content
- Great early season emergence
- Good late season plant health



N4H422 CL

Top of the rating scale for stalk and root strength, this hybrid has consistently high test weights and uniformly clean stalks. A black seed coat with above average oil content makes the N4H422 CL an ideal hybrid for the bird food or the oil crush market.

MATURITY: Medium

MARKET: High Oleic

TRAIT: Clearfield

DMR: Yes

- Beyond Xtra herbicide tolerant
- Strong Stalk and roots
- Excellent late season plant health
- Solid test weight



N4H470 CLP

N4H470 CLP delivers an all around win on the farm. With excellent agronomics including solid stalks and roots, plus the added benefits of downy mildew resistance and improved weed control with the Clearfield Plus production system, growers will achieve solid yields and top-end oil content.

MATURITY: Medium

MARKET: High Oleic

TRAIT: Clearfield Plus

DMR: Yes

- Beyond Xtra herbicide tolerant
- Clearfield Plus for improved weed control
- Excellent stalk and root strength, good late season plant health
- Consistently strong yield and oil content



NEW! N4H490 E

N4H490 E is part of Nuseed's expanding Express portfolio. It's also the first of many products coming down the pipeline with advanced downy mildew resistance. This high oleic oilseed is able to compete in the field with its root strength, excellent oil content and yield.

MATURITY: Medium

MARKET: High Oleic

TRAIT: ExpressSun

DMR: Yes

- Express herbicide tolerant
- Very competitive in yield across regions
- Excellent test weight and oil content
- Strong stalks and roots
- Advanced downy mildew resistance





The NuSun sunflower oil profile was developed by the U.S. National Sunflower Association, in coordination with the USDA, to create an oil essential for the food industry.

NuSun oil has a naturally high smoke point and does not require trans-fat creating hydrogenation to remain stable at high temperatures. It has a good shelf life and neutral taste profile making it an excellent choice for frying oil. A typical fatty acid profile is 65% oleic acid, 26% linoleic acid and 9% combined saturates.

FALCON

Falcon is a fiercely resilient hybrid. Strong agronomics and the ExpressSun herbicide trait make for a low management season. Easy to grow and even easier to market, Falcon consistently delivers in both yield and oil content, making it a good fit for the NuSun and bird food markets.

MATURITY: Medium-Early

MARKET: NuSun

TRAIT: ExpressSun

DMR: No

- Express herbicide tolerant
- Excellent stalk strength
- Consistently good yields
- Medium plant height



CAMARO II

Camaro II is a performance hybrid, engineered to resist both wind and weather. Its root and stalk structure is enhanced with stacked disease resistance to keep sunflower growers on the road to a low management, high-yielding season. Year after year Camaro II generates high yields and profits.

MATURITY: Medium

MARKET: NuSun

TRAIT: Clearfield

DMR: Yes

- Beyond Xtra herbicide tolerant
- Improved sclerotinia head rot tolerance
- Great stalks and late season plant health
- High yielding, uniform single-cross hybrid





CONOIL (DEHULL)

The conoil seed type is the most versatile of the sunflower seed types and offers opportunities across multiple markets including kernel, oil, confection and bird food. This seed is generally higher in oil content than confection seeds.

BADGER DMR

Badger DMR's high yield is matched by its high test weight, a valuable quality for dehull processors. With Badger DMR there are abundant marketing opportunities, giving growers flexibility at harvest.

MATURITY: Medium

MARKET: Dehull

TRAIT: Clearfield

DMR: Yes

- Beyond Xtra herbicide tolerant
- High yield is matched with high test weight
- Excellent hullability and meat-to-hull ratio
- Striped seed for hulling



N5H493 CL

N5H493 CL, Nuseed's first high oleic conoil bred specifically with the dehull market in mind. With excellent standability, fast drydown and Beyond Xtra herbicide tolerance, fields will be clean and standing straight into harvest.

MATURITY: Medium

MARKET: Dehull

TRAIT: Clearfield

DMR: No

- Beyond Xtra herbicide tolerant
- Processor preferred for the dehull high oleic market
- Striped seed with excellent hullability
- Shorter plant height with high yield
- Confection planting seed



SUNFLOWER MARKETS

While the vibrant, strong sunflower is recognized worldwide for its beauty, it is also an important source of healthy edible oil and protein meal. As one of the world's leading oilseed crops, sunflower oil is a valued and healthy vegetable oil. Sunflower seeds are also enjoyed as a healthy snack and nutritious ingredient to many foods.



OIL

Approximately 75% of sunflowers grown are utilized for the oil that can be extracted from the seeds. Sunflower oil is naturally made up of a combination of monounsaturated, polyunsaturated, and low levels of saturated fat. Oil sunflowers are generally classified based on their oleic (monounsaturated fat) content. Oil sunflowers that are not used for oil extraction purposes can also be used in producing high quality bird food.

PRIMARY CATEGORIES OF COMMERCIALY AVAILABLE HYBRID SEEDS

Nusun®: Oleic levels of 55-75%

High Oleic: Oleic levels greater than 82%
(common minimum crush requirement)



CONOIL (DEHULL)

The dehull market requires processors to mechanically remove the hull and separate the kernel to be sold as a raw ingredient or roasted for snacking. The shell of conoil type sunflower seeds (a cross between confection and oilseeds) is the easiest to separate.



CONFECTION

This highly recognizable black and white seed serves as a tasty and healthy snack. Confection sunflower hybrids are planted at a lower population in the field to grow longer more plump seeds. The largest of the seeds get sold to the in-shell market, like what you eat at baseball games, while the smaller seeds are utilized in the dehull market.



CONFECTION

Confection sunflowers are grown to meet the specific needs of processors in the in-shell snack market.

PANTHER DMR

Panther DMR offers confection growers excellent yield potential and high test weight. Known for its very early maturity and great standability, this processor preferred hybrid with downy mildew resistance is a perfect fit for northern growers.

MATURITY: Early

MARKET: Confection

TRAIT: None

DMR: Yes

- Very high percentage of large seed
- High yield and test weight
- Shorter height, uniform plant type
- Very early flowering





ADVANCING CANOLA AND SUNFLOWER BY ADDING VALUE BEYOND YIELD® FOR GROWERS.

Nuseed teams locally and globally are dedicated to providing farm customers with excellent seed, service, and new opportunities.

Nuseed's R&D and breeding teams have a long history in building our world-class germplasm and delivering input traits with top agronomic performance proven locally. Simultaneously, we're developing and commercializing proprietary output plant-traits, like Nuseed Omega-3 Canola, with very specific end-use benefits and added value. We build Nuseed Value Chains connecting local growers to global end-use customers and add value at each step and for every participant.

Learn more at nuseed.com | 888-786-SEED



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ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready technology contains genes that confer tolerance to glyphosate, an active ingredient in Roundup® brand agricultural herbicides. Agricultural herbicides containing glyphosate will kill crops that are not tolerant to glyphosate. Roundup Ready®, Roundup® and TruFlex® are trademarks of Bayer Group.



Seed containing a patented trait can only be used to plant a single commercial crop. It is unlawful to save and replant Roundup Ready® spring canola, Roundup Ready® winter canola, and TruFlex® canola with Roundup Ready® Technology. Additional information and limitations on the use of these products are provided in the Technology Stewardship Agreement and the Bayer Technology Use Guide: tug.bayer.com. U.S. patents for Bayer technologies can be found at the following webpage: cs.bayerpatents.bayer.com