

# Seeds of Knowledge

The scoop behind popular Nyjer and Sunflower

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**P**art of being a great salesperson is knowing your products. Here's a little background on two of the most popular bird seeds, knowledge that might help increase your customer's enjoyment of backyard birdfeeding.

## Nyjer

Nyjer, the seed formerly known as thistle, has been undergoing a name change every bit as newsworthy as that undertaken by the artist formerly known as Prince.

As a youngster, I bought it as thistle. But today it is increasingly known as Nyjer, a 1998 registered trademark of the Wild Bird Feeding Institute (WBFI, [www.wbfi.org](http://www.wbfi.org)).

WBFI promoted the change because the international common name niger is often mispronounced and this seed does *not* come from the thistle plant, several species of which are considered a noxious weed that is a threat to biological diversity in North America.

How this tiny, black seed came to be referred to as thistle is unclear. The Shaw Creek Bird Supply Company ([www.shawcreekbirdsupply.com](http://www.shawcreekbirdsupply.com)) suggests that it may be attributable to this: Goldfinches and other birds eat Nyjer as well as the seeds of the real thistle and use the downy fluff from these plants to line their nests.

The finch's association with thistle may have been enough for some distributors to start promoting the seed by this name.

It's the association with thistle plants that has many conservationists concerned, however. Non-native thistles, which originate in Europe, Africa and Asia, include several species that pose a serious risk to our native flora and fauna.

The California Native Plant Society ([www.cnps.org](http://www.cnps.org)) notes that the yellow star thistle (*Centaurea solstitialis*), for example, has invaded more than a tenth of the state, including 10 million acres of rangelands. The plant is toxic to horses, displaces native plants, and increases fire hazards.

With this kind of reputation, it's no wonder WBFI wanted to set the story straight.

*It's Nyjer's small size and 40 percent oil content that drives finches crazy.*



Photos courtesy of Duncaith

Nyjer is harvested from a plant whose scientific name is *Guizotia abyssinica*, a member of the Asteraceae family. This yellow-flowering plant — thistles are pink to purple — is cultivated in Ethiopia, India, Myanmar and Nepal but imported to the U.S. from the first two countries.

According to the WBFI, it is the only major wild bird feed ingredient imported into North America from overseas. The U.S. Department of Agriculture requires that imported Nyjer seeds be heat-treated at 250 degrees for 15 minutes to “devitalize” any weed seeds that may be present and prevent them from germinating.

This is a key way to help prevent the accidental introduction of potentially dangerous, invasive, exotic plants, such as thistle.

### Valuable Uses

Karen Jones-Burns, vice president of operations for ETO Sterilization, a company that performs the heat treatment on the seed, estimates that about 60,000 (50,000) metric tons of Nyjer are imported

into the U.S. each year — good news for siskins and goldfinches!

Nyjer is cultivated primarily for its valuable oil, which is used in foods, paints, soaps and as an illuminant.

The Purdue University Department of Horticulture and Landscape ([www.hort.purdue.edu](http://www.hort.purdue.edu)) notes that the oil can be used as a substitute for olive oil and can be mixed with linseed oil. The seeds themselves can be consumed fried or as a condiment.

In Ethiopia, the seeds are mixed with honey and pressed into cakes for use as livestock feed. The plant itself is used as green manure in the pre-flowering stage.

It's the seed's small size and its 40 percent oil content that drives finches crazy. The Purdue Web site reveals that each 100 grams of the seed contains 31 to 34 grams of fat, along with lots of carbohydrate and protein.

### Sunflower

One of my greatest pleasures is pour-



ing a new 20-pound bag of black oil sunflower into the metal storage container in my garage. The texture, smell and sight of the glossy black shells are a pleasure for the senses.

Although I always think tube feeder when I see sunflower, bird food represents only a small portion of the market for this valuable seed.

## Centuries of Sunflowers

The sunflower (*Helianthus annuus*) has an intriguing history. It is one of 67 members of the genus *Helianthus*, all of which are native to the Americas.

Botanists will recognize it as a member of the composite family. The striking head of the sunflower is not a single flower but is made up of 1,000 to 2,000 smaller flowers, each of which may turn into a seed.

Although the history of its first cultivation is unclear, sunflowers were apparently used by North American Indians before European colonization of North America.

**3,000 B.C.:** The Anderson Seed Company Web site ([www.andersonseedco.com](http://www.andersonseedco.com)) describes sunflower as a common crop among Indian tribes across the continent, with evidence the plant was cultivated in the Southwest.

Sunflower may even have been cultivated before corn. Indians ground or pounded the seed into flour for bread, cakes and mush.

As meal, it may have been mixed with other vegetables such as beans and squash. It also had uses as a medicinal crop (snakebite treatment, among others), a source of dyes and as oil for ceremonial body painting and pottery.

**1500:** Early French, Spanish and English explorers took the seeds back to their native lands, according to the Anderson Seed Company. From there its use spread along the trade routes to Italy, Egypt, Afghanistan, India, China and Russia.

**Early 1700s:** The English were squeezing oil from the seeds, and by the early 1800s oil was being produced on a commercial scale.

The Russian Orthodox Church apparently played a big role in the oil's popularity. The Church forbade most oil foods during Lent, but sunflower was not on the list and quickly gained a following.

**Early 1800s:** Russia was cultivating more than 2 million acres. It was about this time that two real seed types came to be recognized: the larger seed that is eaten as a food and the smaller variety that was rich in oil.

**Late 1800s:** After this long tour of the Old World, the sunflower returned to North America for commercial uses.

**1926:** Although the plant's first use appears to have been silage for poultry, by this year the Missouri Sunflower Grower's Association was processing the seed into oil.

### Nyjer In-Depth

The genus *Guizotia* includes six species, of which Nyjer and four others are native to the highlands of Ethiopia. The *Guizotia abyssinica* plant grows to about 4 1/2 feet.

The flowers are yellow and may be arranged singularly or in small clusters up to five inches across. The flowers are pollinated by bees.

In tropical areas, Nyjer seeds are sown in rows about 10 inches apart, or broadcast and mixed with fertilizer and worked into the soil with a light harrowing.

The seeds germinate in about two days after sowing and are thinned after about a week. Twelve to 18 weeks after planting, the crop is harvested.

Traditionally, the seed is harvested while the buds are still yellow, stacked to dry and then transported upright to the threshing ground. Threshing is relatively easy because the seeds are loosely held in the flower heads.

Average seed yields range from 100 to 200 kilogram/hectares in India to 1,000-1,200 kg/ha in fertile Himalayan soils.

*Sunflower seed is a source of  
high energy for birds and people.*

About 70 percent of the crop's value is derived from the oil, prized for its nearly clear color, unsaturated fatty acids and other desirable factors for cooking and food production.

The University of Wisconsin's *Alternative Crops Manual* ([www.hort.purdue.edu](http://www.hort.purdue.edu)) notes that in the mid 1980s, sunflower seed was the third largest source of vegetable oil in the world, behind soybean and palm.

Sunflower oil is preferred cooking oil in many parts of Europe. It is gaining favor in North America with the introduction of oleic types of sunflower, which are better for frying uses and which extend the shelf life of snacks. Europe and Russia are the world's major producers of sunflower seeds.

As any regular visitor to the snack aisle in the local supermarket can tell you, sunflowers are popular with humans. Typically the largest seeds — often the striped variety — are used for in-shell roasting, with the next-largest stripped of their hulls and sold as nutritional treats.

Last but not least, the smallest seeds are reserved for the bird food market. The smaller seeds, usually the black oil variety, are rich in high energy oils and easier to handle for many smaller seed-eating birds, such as chickadees and nuthatches.

Not surprisingly, the sunflower's rich oil content is what makes it popular with birds. The *Alternative Crops Manual* describes sunflower as having 39-49 percent oil in the seed. So it's a source of high energy for birds and people.

Industry experts estimate that about 500,000 acres in the U.S. and Canada are devoted to producing sunflower for bird-feeding purposes, with some 800 million pounds or so making its way into our backyard feeders.

Ironically, birds are considered a major pest to sunflower farmers in some areas, particularly the Great Plains. Flocks of blackbirds, particularly Red-winged and Yellow-headed, and Common Grackles, may descend on fields of ripening seeds and cause considerable economic damage.

Losses to farmers in this area are estimated to be \$4 million to \$7 million annually. Recent plans to poison blackbird flocks created considerable controversy, and have stimulated research on alternative approaches minimizing damage, such as managing the preferred cattail marsh

roosting sites near sunflower fields, creating "decoy" crops to lure the birds away from commercial sunflower fields and identifying repellents.

Birdfeeding is an adventure in many ways. Now that you know a little more about the origin of the seeds we share with our birds, you will have one more

good excuse to hang a new feeder. 🐦

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