Growing Organic Oats:
A Resource for Organic Producers

Oats as an Organic and Regenerative Crop

Oats are a unique and hardy crop that is grown and marketed widely across Canada. They are known for their ability to grow in areas that are considered marginal - meaning there is little agricultural value to that land because of poor soils, lack of rainfall, steep terrain, or any other geographical reason. Additionally, oats can also grow in cooler climates and in nutrient-limiting soils. Oats have a dense and fibrous root system which helps create an important relationship with mycorrhizal fungi - this ultimately helps the plants better access nutrients and water, enhances their growth, and better protects them from diseases and harsh conditions. Oats are a good crop that can help quickly suppress and lower weed numbers on a field. Their biomass can grow very quickly and the oat crop itself can take up excess nutrients, making them unavailable for weeds. Oats are a common species to find in cover crop mixes because they are hardy, quick to mature, and known to even improve the productivity of legumes.

Choosing the Right Oat Seed Variety for Your Operation

When picking the right seed variety for your farm, there is lots to consider and lots of options. It's important to align your choice with both your geographic conditions and your values and goals as an organic producer. Here are a few things you should be considering:

- Local Climate: is it suitable for your area?
- Disease and Pest Resistance: what is a disease or pest outbreak in your area that you should try and avoid? Which variety has the best disease package for your operation?
- Performance in a Marginal Area and Low-input Environment
- Diversification: the ability to indirectly form symbiotic relationships with soil microorganisms as well as the ability to be paired with other crops.
- Maturity Date: a crop that germinates and matures faster can help reduce weed establishment. This goes hand-in-hand with your local climate.
- Plant Height, Biomass Accumulation, and Resilience to Mechanical Weed Control: these traits in a plant can also help improve its ability to outcompete weeds.
- Management Considerations: when do you intend to plant your oat crop? Are you planning to straight-cut or swath it?
- Post-Harvest Considerations: what are your intentions for your field following harvest? Are you baling straw, looking to establish a cover crop, or under-seeding?

Organic Oat Seed Varieties

Below is a list of popular oat varieties used in organic farming:

CDC Arborg
CDC Arborg is known for its high yield rate and high groat percentage. It is early to mature and has a strong lodging resistance. Along with its strong milling characteristics, CDC Arborg also has some strong forage characteristics. It is great for filling in the row spacing during the 'tillering' stage because of its tall canopy of large leaves.

CDC Endure
Although still considered an acceptable by many millers, CDC Endure is not a recommended variety in Saskatchewan. Always check with your miller to confirm their recommendations.

CDC Haymaker
CDC Haymaker is a forage variety and is used for a diversity of purposes, including silage, green feed, swath grazing and forage blends. It is a tall plant with a late maturity, and it has a higher biomass with good forage quality and improved digestibility. It has a good disease package, as it is susceptible to smut, crown rust, and stem rust. CDC Haymaker has good lodging resistance as well.

AAC Oravena
AAC Oravena is specifically tailored towards organic producers! This variety has strong milling qualities (high levels of beta-glucan) and it has been proven to perform well under organic management. It also carries the oat crown rust resistance gene and is resistant to loose smut. AAC Oravena was tested in and is suitable for western Canada. Its seed is no longer being sold, but producers with access to AAC Oravena may still be growing it (as of 2025).

AAC Kongsore
AAC Kongsore is another suitable option for organic growers in the Prairies. It produces high yields, is resistant to a handful of diseases including loose smut, and is also proven to be tolerant to lodging. This oat variety has been proven to perform in organic management systems in Canada. Its seed is no longer being sold, but producers with access to AAC Kongsore seed may still be growing it (as of 2025).

More oat varieties are available - check your local seed distributor to see what best suits you and your operation!

Oats as a Cover Crop

The ultimate goal of cover crops on an organic operation is to create biodiversity, protect soil, build soil organic matter, and suppress weeds.

What Makes Oats a Good Choice to Add Into Your Cover Crop Mixture?
Oats are a great choice to add in your rotation when a spring or fall crop is needed. They can make for a nutritional forage or can also be plowed under for green manure. Oats are a fast growing, hardy annual grass that does well in cool weather and is known for being able to grow in areas that might be considered 'marginal'. Their fibrous root system helps bind soil to improve its structure and prevent soil erosion. They are a great organic matter builder and are a high biomass producer if well established. Oats are effective in reducing water and wind erosion and are an excellent weed suppressor. Because oats are an annual crop, they do not overwinter, thus they do not need spring termination. This creates a valuable winterlong cover for overwintering crops, such as alfalfa. This winterlong cover provides a great soil-protecting mulch and insulator for the overwintering crops and can also help suppress weeds. The winter killed oat stems can also help trap snow and conserve moisture which is valuable for the next growing season. Oats allow for flexibility for the next spring rotations because they can easily be no-till planted or turned under.

Types of Oat Cover Crops
When cover cropping, oats can serve as either a "catch crop" or a "nurse crop".

Catch Crop (A Temporary Cover Crop)
A catch crop is a fast growing crop sown between two main crops. Many forage grasses, such as oats, are used specifically for soil improvement and as catch crops. Oats specifically make a great catch crop because of their ability to rapidly grow. They can help protect the soil and catch nutrients during short periods in cool weather when the soil would otherwise be bare. For example, oats mixed in with a pea green manure can provide additional carbon, suppress weeds in the early season, provide physical support for climbing pea plants, and take up the available nitrogen in the soil, which forces the legumes to fix their own nitrogen.

Nurse Crop
A nurse crop is an annual crop used to assist in the establishment of a perennial crop. Oats are considered a universal nurse crop and are commonly planted with slower growing perennials, such as clover(s), alfalfa and vetch. An oat nurse crop can help reduce weed numbers and competition by smothering them, outcompeting them, and even by allelopathic effects. Allelopathic effects can help prevent weed seeds from germinating by releasing allelochemicals, such as alkaloids and flavonoids, to the neighbouring plants. Oats also help the winter survivability of the legume by sheltering them from frost damage. If you are planning on spring seeding oats with red clover or

alfalfa, the oats will be able to be harvested for hay or gain while the legumes are allowed to grow for a few seasons longer to fully establish themselves. If you are spring planting oats with a fast growing annual legume, both the oats and the legume can be removed for haylage (preferably in the dough stage for oats).

Dealing With Wild Oats

Wild oats are one of the most common and competitive weed species found in oat crops across Western Canada. Its close genetic relationship to cultivated oat makes it particularly problematic, as it can be difficult to distinguish and control without harming the crop.

Why Are They a Concern?
Wild oats pose a serious threat to oat production due to their aggressive growth and ability to outcompete cultivated oats for vital resources, such as moisture, nutrients, and sunlight. Their rapid development can significantly reduce crop yields, especially in heavily infested fields. In addition to yield losses, wild oats can contaminate harvested grain, leading to increased cleaning costs and reduced grain quality. This contamination often results in lower market grades and decreased overall value, making wild oats a costly and persistent problem for oat producers. It can also be a host for some plant diseases, including barley yellow dwarf, lucerne dwarf, ryegrass mosaic, and wheat streak mosaic viruses. The seed of wild oats is commonly viable in the soil for about 4-10 years. Germination of this weed requires a dormant period and optimal temperatures (15°-21°C).

Control Methods

Diverse Crop Rotations

These play a key role in reducing weed susceptibility and tolerance. By rotating crops with different growth habits, planting times, and management practices (such as including alfalfa, fall rye, and winter wheat), farmers can disrupt weed life cycles, reduce weed seed banks, and limit the development of herbicide resistance.

Growing Perennial Forages

Perennial forages can effectively outcompete weeds and may help break the cycle of resistant weed populations. Because perennial forages establish dense, long-lasting root systems and canopies, they suppress weed growth over multiple seasons, reducing weed seed production and limiting opportunities for resistant weeds to dominate.

Stale Seedbed

This weed management strategy involves preparing the seedbed early in the spring and allowing weeds (such as wild oats) to germinate. Once the weeds reach a vulnerable stage, they are removed through shallow tillage or cultivation before planting the main crop. This method helps reduce the initial weed seed bank and minimizes weed competition during crop establishment.

Increasing Seeding Rate

Increasing crop competition can effectively reduce weed populations. This is largely due to the denser crop canopy formed by higher seeding rates, which shades the soil surface, reducing light availability for weed germination and growth. Additionally, the crop uses more of the available resources (i.e., nutrients, moisture, and space), leaving less for weeds.

Sources

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