

SUMMER/FALL 2016 EDITION

FORAGE + COVER CROP MANAGEMENT GUIDE

Making Cover Crops Pencil

Cover Crop Specifics

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Brassica Cover Crop

COVER CROPS: MAKING THE MATH WORK

While improving water quality and other environmental conditions is great, cover crops still need to pencil out.

By CHS Seed Resources Staff

CHS Seed Resources is actively engaged in various cover crop advocacy groups, with both private and public organizations. The surge in cover crop use is impossible to ignore, and the push from government agencies is growing. Both farmers and researchers are increasingly discovering the benefits of using cover crops.

Few farmers will argue against the proclaimed environmental benefits of cover crops – less fertilizer runoff, less sediment run-off, overall increased water quality, decreased wind-blown erosion and other benefits. However, as good as these things sound, farmers can't afford to plant cover crops if there are not economic benefits. After all, margins are usually thin in the agriculture world. Cover crops must pay for themselves, and preferably increase net profits.

While numerous studies are underway determining various economic benefits of covers crops, fortunately, there is a significant amount of information currently available. This information comes in the form of formal university trials and farmer testimonials. With all the available information, we can start to paint a decent picture of the benefits of covers crops.

HOW COVER CROPS BENEFIT CASH CROPS

The primary way cover crops generate increased net profits is through improving crop yields. There are several factors that can improve crop yields.

Breaking Ground Compaction (Increasing Available Nutrients and Water): Most farmers are well aware of compaction layers in their fields. These hardpans prevent crop roots from growing below the compaction layer. Various cover crop species with strong root systems have shown the ability to break these compaction layers, allowing the following cash crop to grow deeper roots. What is below those hardpans? Unused water and nutrients. Cash crops following cover crops have consistently produced larger-than-average yields, even in drier-than-average conditions because of their ability to tap deep unused nutrients and more consistent soil moisture.

Increased Organic Content (Water-holding Capacity): According to university studies, for every 1% of increased organic content, the soil can hold up to 20,000 more gallons of water per acre. That equals about 1 acre inch of water. This increased water-holding capacity results in more drought-tolerant crops. Of course, increased organic content provides many other benefits, as well. Many farms have the ability to increase organic content 1% in just a few years.

Increase and/or Preserve Soil Moisture: This point is partially related to the previous comments about water-holding capacity. A common thought among farmers, particularly those in low rainfall areas (High Plains and Mountain West), is that cover crops deplete precious soil moisture needed by the following cash crop. However, studies from the Montana Salinity Control Association and Kansas State University indicate that while cover crops can, in fact, use a lot of water, the soil moisture content at the time of cover crop termination is the same or higher for that time of year as compared to fallow ground. This can be attributed to increased water infiltration, increased organic content and decreased evaporation rates.



Cover crop mix of cereals, brassicas and clovers in the Southern Plains, thriving in cold temperatures.

Nutrient Storage (Preventing Nutrient Leaching): Many cover crop species, such as radishes, turnips and annual ryegrass, with either tuber root systems or large, massive root structures, absorb quite a bit of nutrients. Those nutrients, however, are largely released back into the soil with the cover crop is terminated. By preventing leaching over the winter, the following cash crop has more nutrients available.

Crop Rotation: An often overlooked benefit of cover crops is providing a rotation. In some areas, for example, cereals may be the only viable cash crop. The cereal is either planted year after year or separated by follow years. Some farmers have found that simply adding a cover crop in the off season or off year can significantly boost yields by breaking disease cycles and the nutrient drain one species has on the soil.

Topsoil Preservation (Fertilizer Content): According to Iowa State University, the average cash crop farm in the United States loses more than 2 tons of topsoil per acre per year. That 2 tons of topsoil is the best soil. The loss of that desired soil has a value, and it can be calculated. The nutrients alone in 2 tons of soil can be measured. Many estimates figure most farms have up to \$5 worth of fertilizer in 2 tons of topsoil.

Free Forage: Now forage doesn't factor into cash crop yield, or does it? If you have cattle (or a neighbor that will rent pasture space), then utilizing quality forage species as a cover crop can improve the yield of beef or milk production. That potential fall and winter grazing can significantly reduce the amount of needed hay or silage over the cool season. Sure, fences may have to be erected around cash crop fields so they can double as pastures, but using cover crops as a forage creates a double-cropping scenario, with all kinds of benefits.

MAKING IT PENCIL

CHS Seed Resources has developed versatile mixes for farmers to consider. These mixes are adapted to broad geographic ranges and all have high forage quality. Better yet, they range in seed cost from only \$8 to \$17 per acre. There is also the cost of fuel and possibly a light application of fertilizer to maximize cover crop growth. Let's add another \$10 per acre for the total cost of establishment. So the farmer cost is \$18 to \$27 per acre.

What kind of yield increase is needed to pay for the cost of planting these cover crop mixes?

Wheat – 3 to 5 bushels/acre

Corn – 5 to 8 bushels/acre

Soybeans – 2 to 3 bushels/acre

The math can obviously be run on any crop – canola, grain sorghum, barley, sunflowers, cotton, etc.

So can cover crops produce those kinds of modest yield increases to pay for themselves? The answer is ABSOLUTELY. A common answer is cover crops can double or triple those

needed yield increases. In those cases, the increased net profits start to build quickly.

Cover crop studies on wheat have shown yield bumps of 10 or more bushels per acre. University of Illinois Extension studies have shown corn yields increase by a shocking 20%, with similar percentage yield bumps for soybeans. The list goes on and on. There are many studies, and many show very impressive yield increases. The list of farmer testimonials is rapidly growing. Spend a couple hours searching the Internet for cover crop testimonials. There are hundreds of well-documented grower studies. Some can be found at www.CHSSeedResources.com.

The economics of cover crops is not a new discussion. As a matter of fact, it appears a student at Oregon Agricultural College (now known as Oregon State University) studied the economics of covers as part of a bachelor degree thesis in 1909. The student studied the effects of cover crops in orchards. What was his conclusion? The economic return of covers crops ranged from about \$5 to \$25 per acre, and that is in 1909 dollars (\$1 in 1909 is comparable to \$25 today). The best cool-season cover crops according to the study were rape, turnips and vetch (radishes were not included in the study). The lowest economic returns came from cereal rye. Additionally, for those growers that can utilize the forage aspect of the cover crop, these mixes can produce 1 to 3 tons of quality dry matter per acre. That easily has a value of \$50 to \$300 per acre.

CONCLUSION

The United States is about 15 years into the cover crop "movement." The positive data is rapidly piling up. It's safe to say that in just about every geography and for most cash crops, the use of cover crops provides an economic advantage to farmers, both in the short term and long term. Sometimes, that economic advantage can be substantial – more than \$100 per acre net profit increase.



Cover crop mix with crimson clover, after surviving the winter.

COVER CROP PRODUCTS IN DETAIL

There are numerous cover crop products on the market – straight products and mixes. Mixes provide genetic diversity in a field and can provide the benefits of numerous species at once.

Many mixes on the market, however, are not very compatible, mixing cool-season and warm-season species and annuals and perennials. As result, several of the components in such mixes may not provide any benefit. Or some species may try to immediately flower and provide little growth. A quality cover crop mix includes species that can grow in harmony with one another and have similar maturities or flowering timeframes. This allows for maximum growth at the desired time and the ability to effectively terminate the entire cover stand at one time.

CHS Seed Resources has formulated a handful of simple, easy-to-understand mixes to make the buying decision simple.

MIXES

All-Purpose Oat CC: A very versatile product that provides numerous agronomic benefits, including breaking soil compaction (FractureRadish), adding organic content (FractureRadish and rape), generating nitrogen (crimson clover), rapid establishment (winter oats), and providing excellent forage (all the components).

All-Purpose Oat CC		
Seeding Rate 20 lbs/Acre Seeding Price/Acre \$16		
	% Formulation	% Stand
FractureRadish	6%	20%
Rape	8%	25%
Crimson Clover	16%	30%
Winter Oats	70%	25%

All-Purpose Triticale CC: The same effective mix as the above product, only substituting winter triticale for the winter oats.

All-Purpose Triticale CC		
Seeding Rate 20 lbs/Acre Seeding Price/Acre \$16		
	% Formulation	% Stand
FractureRadish	6%	20%
Rape	8%	25%
Crimson Clover	16%	30%
Winter Triticale	70%	25%

N-Plus CC: N-Plus CC is a mix designed for nitrogen production and storage. The mix's stand is about half legumes and half tuber species (FractureRadish and Forager tankard-type turnips). The legumes produce the nitrogen and the tubers store it, along with other scavenged nitrogen. Much of the nitrogen is then released when the cover crop is terminated. The legumes – crimson clover and hairy vetch – are two of the more cold-tolerant annual legumes. They can winterkill in far northern locations. This mix can also be used for grazing, if desired.

N-Plus CC		
Seeding Rate 8 lbs/Acre Seeding Price/Acre \$17		
	% Formulation	% Stand
FractureRadish	16%	15%
Forager Turnips	20%	40%
Hairy Vetch	28%	20%
Crimson Clover	36%	25%

Economy CC: This mix provides excellent cover crop benefits and excellent forage at a remarkably affordable price – about \$8/acre. The mix consists of 100% brassicas, so there are no legumes or grasses in the mix. However, the combination of FractureRadish, Forager turnips and rape provide the ability to break soil compaction, store nutrients, prevent erosion and produce excellent forage.

Economy CC		
Seeding Rate 4.5 lbs/Acre Seeding Price/Acre \$8		
	% Formulation	% Stand
Fracture Radish	20%	10%
Forager Turnips	30%	35%
Rape	50%	55%

INDIVIDUAL SPECIES/VARIETIES

FractureRadish: An improved, large-rooted daikon radish, FractureRadish provides a host of benefits – breaking soil compaction, nutrient storage, producing organic content, erosion control and assisting in weed control. In some scenarios, it may be beneficial to plant straight FractureRadish. Be careful when purchasing cheaper-than-average radishes, as some distributors have used oilseed radishes in place of daikon radishes for cover crop use. Oilseed radishes are different from daikons. There are even noticeable differences between daikon varieties. FractureRadish is one of the most effective overall products for cover crop use.

Seeding Rate: 8 lbs/acre

Seeding Timeframe: 45 or more days before killing freeze

Seeding Cost: \$15/acre

Forage Value: Medium (high quality, medium foliage yield)

Forager Turnip: An improved tankard-type forage turnip, Forager turnips provide a very economical option, with some of the benefits of FractureRadish. The tankard-type tuber is similar to a large carrot or even a small daikon radish. Forager is not known to break soil compaction as deep as FractureRadish, although it does provide many of the other benefits. Forager can be considered a “poor man’s radish.”

Seeding Rate: 4 lbs/acre

Seeding Timeframe: 30 or more days before killing freeze

Seeding Cost: \$9/acre

Forage Value: Excellent (high quality, high foliage yield)

Browser Rape: An improved forage rape, Browser is an incredibly affordable cover crop product. Its primary benefits are as a rotation species, adding moderate amounts of organic content and preventing erosion. Rape roots can penetrate hardpans, but the species is not regarded for breaking deep soil compaction. It is a fantastic grazing crop with good cold tolerance.

Seeding Rate: 4 lbs/acre

Seeding Timeframe: 30 or more days before killing freeze

Seeding Cost: \$6/acre

Forage Value: Excellent (high quality, high foliage yield)

Perforate Annual Ryegrass: Annual has a bad reputation in many areas, but it is still one of most effective cover crop products and one of the most widely planted. Perforate is excellent at breaking deep soil compaction, adding large amounts of organic contact (because of its unusually massive root system), controlling soybean cyst nematodes, preventing erosion, and it is easy to establish. If sprayed prior to boot stage, annual ryegrass can be effectively terminated. Contact your local CHS agronomist for an effective chemical burn down plan. Perforate often winterkills north of Interstate 80, and usually winterkills north of Interstate 90 and at high elevations. It can be planted later than most broadleaf cover crop species. Perforate also produces forage quality that is unsurpassed in the grass portfolio.

Seeding Rate: 20 lbs/acre

Seeding Timeframe: 20 or more days before killing freeze

Seeding Cost: \$17/acre

Forage Value: Excellent (high quality, high foliage yield)

Fixation Balansa Clover: This annual clover is very drought and cold tolerant. Growers in low-rainfall areas have seen success with Fixation, and it can be one of the best legume options for the Northern Plains and Mountain West. Once mature, it is an excellent nitrogen producer.

Seeding Rate: 6 lbs/acre

Seeding Timeframe: 20 or more days before killing freeze

Seeding Cost: \$18/acre

Forage Value: Excellent (high quality, high foliage yield)

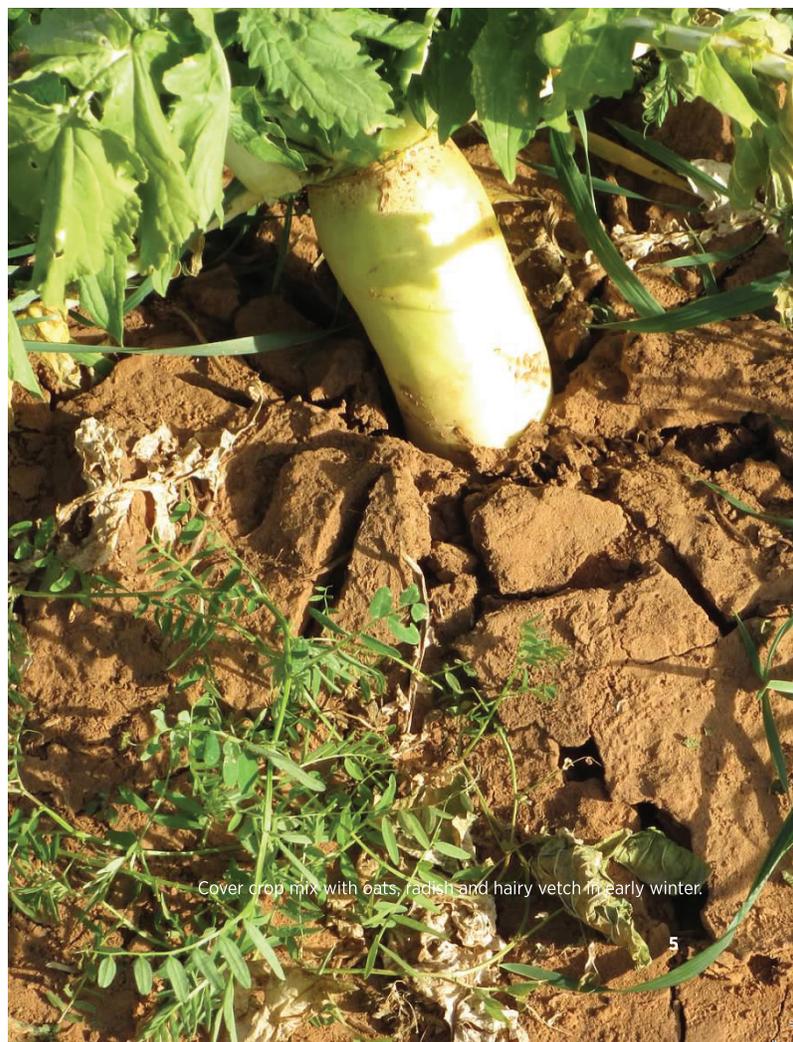
Austrian Winter Peas: Winter peas are hardy legumes that are widely used for cover crop use. They provide moderate winter hardiness and nitrogen fixing. Their higher seeding rate results in establishment cost higher than many other cover crop species or mixes.

Seeding Rate: 25 lbs/acre

Seeding Timeframe: 20 or more days before killing freeze

Seeding Cost: \$21/acre

Forage Value: Medium (medium quality, medium foliage yield)



Cover crop mix with oats, radish and hairy vetch in early winter.

COVER CROP PRODUCTS IN DETAIL

Crimson Clover: A widely adapted annual clover, crimson is an affordable legume option for cover crops. It has better winter hardiness than many other annual legumes.

Seeding Rate: 12 lbs/acre

Seeding Timeframe: 20 or more days before killing freeze

Seeding Cost: \$20/acre

Forage Value: Excellent (high quality, high foliage yield)

Cereal Grains: Winter wheat, triticale, barley, oats and rye are common cover crop products, and provide some benefits, especially in a mix. Winter rye is probably the most popular cereal used for cover crops because of its excellent cold tolerance and forage value. Triticale has some of the same characteristics. Winter oats are excellent for the Central and Southern Plains where winter temps are less severe. Cereals, as a whole, are often more expensive than most other covers because of their high seeding rates. Seed cost can be north of \$20/acre. They are best used in a mix to provide quick establishment, erosion control and forage.

Maximus Sugar Beet Nematode Radishes: Maximus radishes have been developed to control sugar beet nematodes. These radishes are distinctly different from FractureRadish and other daikon or oilseed radishes. Tests have shown Maximus can eliminate nearly 100% of the sugar beet nematodes in a field.

Seeding Rate: 8 lbs/acre

Seeding Timeframe: 45 or more days before killing freeze

Seeding Cost: \$25/acre

Forage Value: Poor

Fumigate White Mustard: Primarily used for organic operations and potato operations, Fumigate is a natural biofumigant. It must be planted at least 45 days prior to a killing freeze then incorporated into the ground, with the plants shredded as much as possible.

The chemicals released by the plant provide natural biofumigant properties.

Seeding Rate: 15 lbs/acre

Seeding Timeframe: 45 or more days before killing freeze

Seeding Cost: \$39/acre

Forage Value: None

Hairy Vetch (VitaVetch): VitaVetch is an improved hairy vetch with great cold tolerance and exceptional nitrogen-fixing ability. It was designed specifically for cover crop use. Unfortunately, it is sold out for the 2016 season. Common hairy vetch is available and is still one of the better legume options for cover crop purposes.

Seeding Rate: 15 lbs/acre

Seeding Timeframe: 20 or more days before killing freeze

Seeding Cost: \$35/acre

Forage Value: Medium (medium quality, medium foliage yield)

NOTE: Prices given in this newsletter were average retail prices at time of printing. Pricing is subject to change.



FractureRadish cover crop late fall 2015 from west Texas



Winter peas in late fall.

CHS SEED RESOURCES PROPRIETARY PRODUCTS

ALFALFA

AlfaThree: Fall dormancy 3 product, excellent winter hardiness and high yields. Ideal for three- or four-cut operations for hay or silage.

AlfaThree Grazer: Fall dormancy 3, excellent winter hardiness and persistence, sunken crown for traffic tolerance.

AlfaFour: Industry-leading yields, fall dormancy 4 product, good winter hardiness, ideal for four- or five-cut operations for hay or silage.

AlfaFour Silage: Fall dormancy 4 product, great winter hardiness, industry-leading regrowth rate, best used for silage harvest only on four- or five-cut operations.

EconFour Brand: High-performing fall dormancy 4 product, strong disease package and solid yield potential, an excellent economical option.

AlfaFive: Fall dormancy 5, great winter hardiness, very good forage yields, ideal for five- or six-cut operations for hay or silage, ideal for parts of the PNW and areas in the Central Plains and Midwest south of I-80.

AlfaSix: A fall dormancy 6 product, very good winter hardiness, fast growth and big yields, excellent for areas of the Plains south of I-40.

FORAGE MIXES

DesertMax: Dryland mix designed for the interior Pacific Northwest. Can be used for hay or grazing. Mix of smooth brome, perennial ryegrass, orchardgrass, crested wheatgrass, intermediate wheatgrass, endophyte-free tall fescue, alfalfa.

MustangMax PNW: Horse pasture mix designed for the Pacific Northwest. Best utilized in higher rainfall areas or under irrigation in interior PNW regions. Mix of orchardgrass, timothy, perennial ryegrass, annual ryegrass.

Custom Mixes: CHS Seed Resources understands every farming operation is different and occasionally special mixes are needed or desired. We can custom mix any product with a minimum 500 lb order.

GRASSES

Candy Perennial Ryegrass: High-performing, tetraploid perennial ryegrass, provides excellent yields and excellent nutrition for beef or dairy cows or horses.

Endurance Tall Fescue: Improved endophyte-free tall fescue, designed for better drought tolerance and persistence, ideal for soils with limited moisture.

Precede Orchardgrass: High-yielding, early-maturing orchardgrass, suitable for most cool-season grass operations.

Postpone Orchardgrass: High-yielding, late-maturing orchardgrass, suitable for most cool-season grass operations, excellent option to mix with alfalfa.

Stallion Timothy: High-yielding timothy, can produce yields 1,000 lbs higher than other timothy varieties.

COVER CROP AND FORAGE/COVER CROP PRODUCTS

All-Purpose Triticale CC Mix: Radish, rape, crimson clover, winter triticale mix. Provides numerous cover crop benefits and forage quality.

All-Purpose Oat CC Mix: Radish, rape, crimson clover, winter oat mix. Provides numerous cover crop benefits and forage quality.

N-Plus CC Mix: Hairy vetch, crimson clover, radish, forage turnip mix. The mix can produce significant amounts of nitrogen, and the tuber species help scavenge and store nitrogen and other nutrients. Also provides excellent forage.

Economy CC Mix: Radish, forage turnips, rape mix. Provides numerous cover crop benefits and forage at a very affordable price.

FractureRadish: Improved daikon radish for cover crop use. Provides countless benefits including: breaking soil compaction, storing nutrients, erosion control, weed suppression and adding organic content.

Forager Turnip: Improved tankard-type forage turnip. Excellent for cool-season forage production and as an effective and affordable cover crop.

Browser Rape: Improved forage rape. Excellent for cool-season forage production and as an effective and affordable cover crop.

Fumigate White Mustard: Popular choice for organic operations and potato growers. Can produce chemicals that act as a natural biofumigant.

Perforate Annual Ryegrass: Improved diploid annual ryegrass, with increased cold tolerance. Perforate is one of the best overall cover crop options, with many benefits. Also provides high tonnage of high-quality forage.

OTHER PRODUCTS

CHS Seed Resources supplies virtually every type of forage, cover crop, native grass, food plot and turfgrass product, including smooth brome, clovers, turnips, wheatgrasses, and more.

For more information:

Contact your local CHS agronomist and visit www.CHSeedResources.com.

FORAGE + COVER CROP MANAGEMENT GUIDE

SEED DEALER INFORMATION

CHS Border States Co-Op

Browns Valley	MN	320-695-2576
Clinton	MN	320-325-5221
Milbank	SD	605-432-9884
Ortonville	MN	320-839-6187
Sisseton	SD	605-698-7772
Wilmot	SD	605-938-4655

CHS - Milton Group

Adams	ND	701-944-2271
Calvin	ND	701-697-5121
Edmore	ND	701-644-2271
Fairdale	ND	701-966-2244
Langdon	ND	701-256-2462
Lankin	ND	701-593-6255
Milton	ND	701-496-3141

CHS - Marshall Group

Elkton	SD	605-542-2371
Marshall	MN	507-829-5246
Ruthton	MN	507-820-0300
Tracy	MN	507-626-0092

CHS Ag Services

Badger	MN	218-528-3205
Crookston	MN	218-281-3507
Drayton	ND	701-454-3488
Grand Forks	ND	701-746-1911
Greenbush	MN	218-782-2111
Hallock	MN	218-843-2627
Hillsboro	ND	701-636-5060
Humboldt	MN	218-379-3185
Lake Bronson	MN	218-754-2800
Larimore	ND	701-343-2340
Oklee	MN	218-795-5100
Roseau	MN	218-463-1955
Saint Hilaire	MN	218-686-2661

St. Thomas	ND	701-257-6415
Stephen	MN	218-478-2258
Thief River Falls	MN	218-686-5503
Warren	MN	218-745-4361

CHS Dakota Prairie

Edgeley	ND	701-493-2808
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CHS Eastern Farmers

Baltic	SD	605-529-5432
Brandon	SD	605-582-2415
Crooks	SD	605-543-5224
Garretson	SD	605-594-3415
Magnolia	MN	507-283-2431
Worthing	SD	605-372-4132

CHS Garrison

Garrison	ND	701-463-2551
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CHS Lake Region

Devils Lake	ND	701-662-5051
Lakota	ND	701-247-2917
Starkweather	ND	701-292-4412

CHS South Central

Hazelton	ND	701-782-4123
Kintyre	ND	701-332-6301
Napoleon	ND	701-754-2573
Sterling	ND	701-387-4506
Wishek	ND	701-452-2336

CHS Sunprairie

Bowbells	ND	701-377-2353
Lignite	ND	701-933-2840
Mohall	ND	701-756-6688
Minot East Plant	ND	701-857-9349
Minot Main Plant	ND	701-852-1429

Minot West Plant	ND	701-857-9348
Niobe	ND	701-848-2759
Norma	ND	701-467-3300
Ryder	ND	701-758-2245
Velva	ND	701-338-2013

CHS Dakota Plains Ag

Casselton	ND	701-347-4171
Comstock	MN	218-585-4649
Englevale	ND	701-973-5854
Forman	ND	701-724-3238
Galchutt	ND	701-553-8881
Glyndon	MN	218-498-2227
Harwood	ND	701-282-3658
Horace	ND	701-282-0208
LaMoure	ND	701-883-5351
Libson	ND	701-683-2376
Lidgerwood	ND	701-538-4585
Litchville	ND	701-762-4251
Mooreton	ND	701-274-8232
Sanborn	ND	701-845-0812
Tower City	ND	701-845-0813
Valley City	ND	701-845-0812
Wyndmere	ND	701-439-2263

CHS - Rochester Group

Byron	MN	507-775-2900
Chester	IA	563-565-2415
Claremont	MN	507-528-2175
Elkton	MN	507-754-5040
Grand Meadow	MN	507-754-5125
Kasson	MN	507-634-7545
Leroy	MN	507-324-5347
Ostrander	MN	507-657-2239
St Charles	MN	507-932-4830
Wyfoff	MN	507-352-5281

CHS Farmers Alliance

Alexandria	SD	605-239-4331
Bridgewater	SD	605-729-2518
Corsica	SD	605-946-6215
Ethan	SD	605-227-4297
Mitchell	SD	605-996-7322
Storia	SD	605-248-2277
White Lake	SD	605-249-2610

CHS Midwest Cooperatives

Draper	SD	605-669-2601
Highmore	SD	605-852-2267
Onida	SD	605-258-2687
Philip	SD	605-859-2501
Pierre	SD	605-224-5935

CHS Northern Plains

Ashley	ND	701-288-2393
Dupree	SD	605-365-5331
Eureka	SD	605-284-2673
Faulkton	SD	605-598-4532
Gettysburg	SD	605-765-2498
Isabel	SD	605-466-2159
Selby	SD	605-649-7682
Strasburg	ND	701-336-7224

CHS Southwest Grain

Belfield	ND	701-575-4386
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Dickinson	ND	701-483-4552
Elgin	ND	701-584-2152
Hettinger	ND	701-567-2408
Killdeer	ND	701-764-5514
Lemmon	SD	605-374-3301
New England	ND	701-579-4496
New Salem	ND	701-843-7555
Reeder	ND	701-853-2302
Richardton	ND	701-974-3831

CHS New Horizons

Chokio	MN	320-324-7451
Fergus Falls East	MN	218-736-5426
Fergus Falls West	MN	218-736-2167
Herman	MN	320-677-2246
Wendell	MN	218-458-2161

CHS Praire Lakes

Cyrus	MN	320-795-2714
Elrosa	MN	320-697-5566
Glenwood	MN	320-634-3028
Hoffman	MN	320-986-2454
Long Prairie	MN	320-732-2149
Park Rapids	MN	218-732-4236
Starbuck	MN	320-239-2226

For more information, contact your local
CHS agronomist and visit
www.CHSeedResources.com.