Seeding

# CCX 9000 COVER CROP SEEDER



www.KuhnNorthAmerica.com



Invest in Quality®

# COVER CROP SEEDER CCX 9000

# **IMPROVING SOIL HEALTH THROUGH COVER CROPS**

#### **COVER CROPPING CHALLENGES**

Cover crops can offer a variety of benefits such as sequestering nutrients, limiting soil erosion, improving soil structure and inhibiting weed emergence. However finding the time to plant a cover crop right after harvest can be a challenge, and an extra pass over the fields is generally undesirable.

### THE KUHN KRAUSE SOLUTION

The KUHN Krause CCX 9000 series cover crop seeder is designed to be used in conjunction with the KUHN Krause Excelerator<sup>®</sup>. This gives you the opportunity to seed a cover crop whilst simultaneously using a vertical tillage operation to manage residue and prepare it for break-down over winter.

#### CCX 9000 BENEFITS

The CCX 9000 uses an electric drive metering unit and includes forward speed compensation as standard to ensure that seed rate remains constant regardless of variations in forward speed. Seed rate can also be adjusted on the go at the touch of a button. The Quantron S-2 terminal allows the operator to monitor all major functions of the seeder and be alerted immediately should any issue arise. At the rear of the machine, seed is placed between the Star Wheels and reel to be certain of soil cover; seed depth adjustment is possible by varying the angle of the seed diffusers.

#### POST HARVEST

#### SEEDING

Select cover crop varieties carefully to ensure they respond as expected in weather conditions post radish will generally need 30 to 45 days growing time

harvest. For example, a tillage before first freeze

### SEQUESTERING NUTRIENTS

Cover crops can be used to absorb and lock up nutrients present in the soil and release them back in spring.

#### WINTER **OVERWINTERING**

Cover crops need to be chosen in accordance with climatic conditions. If a winter kill is desired, ensure that consecutive nights at sufficiently low enough temperatures are likely to avoid relying on chemical burn down in spring

### SPRING

WEED CONTROL Broadleaf cover crops will leave a heavy residue on the soil surface when they die which can help suppress weed growth and reduce the need for further chemical use

#### WATER MANAGEMENT

As the cover crop decays, channels from larger roots promote drainage, while voids left by smaller roots can help the soil retain moisture.

cash crop



Cover crops with aggressive tap roots can be used to improve soil structure

Nutrients present in the cover crop root zone can be sequestered. A tap root will allow nutrients to be collected from deeper in the soil profile, whereas a shallower more fibrous root structure will collect nutrients from a wider, but shallower zone.

Deep rooting crops can penetrate compaction layers. When the roots die and decay the resulting voids aid drainage and the root growth of future cash crops.

> Larger root channels promote drainage, whereas smaller voids from fibrous roots allow moisture retention through capillary action. Roots from the following cash crop may also use the old root channels to find an easy path through the soil



#### NUTRIENT RELEASE

As soil temperatures rise in Spring, the nutrients sequestered by the cover crop will be released back to be available to the following

# WHY COVER CROP?

### WEED CONTROL

Weeds struggle to grow under the canopy of a growing cover crop or the mat of one which has been killed off.

# SOIL EROSION

A soil left bare over the winter is susceptible to erosion from wind or water. A cover crop can help mitigate these effects by breaking the fall of raindrops and providing a wind break.

### SOIL STRUCTURE

A cover crop can help improve soil structure and assist drainage and moisture retention. Deep rooting cover crops can help to loosen soil. When the cover crop is killed off, the roots die leading to voids in the soil where moisture can be stored through capillary action and excess water will drain.

# SEQUESTERING NUTRIENTS

A growing cash crop will not normally use all nutrients available in the soil and so there is a surplus following harvest. The associated environmental concerns of nutrient (such as nitrogen) leaching over the winter period, combined with the financial outlay of replacing this loss, makes a nutrient sequestering cover crop attractive to many farmers.





# **QUANTRON S-2**

The Quantron S-2 terminal allows the operator to control and monitor all aspects of the CCX 9000 from the tractor cab.

- Use an electronic speed signal from tractor radar, GPS or implement mounted wheel speed sensor to ensure consistent seed rate regardless of forward speed
- Quick and easy calibration process to ensure highly accurate seed rates
- Seed rate can be varied up or down "on the fly"
- Sensors monitor metering unit and fan speed to alert the operator to any malfunction
- A hopper level sensor notifies the operator when seed level is low
- Individual acre meters allow area worked to be recorded for up to 200 different fields
- Work with imperial or metric units
- Option to work in lbs / acre or seeds per acre

# CCX 9000 COVER CROP SEEDER in brief

Models	Hopper Capacity (cu. ft.)	Available for Excelerator Models	
CCX 9000-21	21	11' to 14'	
CCX 9000-34	34	20' to 25'	
CCX 9000-45	45	30' to 34'	

# **CCX 9000 COVER CROP SEEDER**





Wrenchless adjustment of seed diffuser angle: aim diffusers forwards towards Star Wheels<sup>™</sup> for deeper seed placement or rearwards towards the reel for shallower seed placement.

# **ADDITIONAL** FEATURES



#### CALIBRATION

The Quantron S-2 terminal guides the is completed in minutes. Simply enter the seed type, target rate and forward speed. The Quantron S-2 provides the setting for the metering unit and indicates whether the small seed splines are neccesary or not. The Quantron S-2 will indicate the maximum and minimum seed rates and forward speed possible with the given metering unit setting. Up to 60 sets of calibration data can be saved for future reference.



METERING UNIT ADJUSTMENT The Quantron S-2 indicates the required

operator through the calibration process, and metering unit opening according to the seed calibration door and into the seed collection type, rate and forward speed entered. The metering unit is then adjusted using the handle and the setting shown on the easy to wrenches and is equipped with a sensor to read scale.



# SEED COLLECTION

During calibration, seed is metered through the bag supplied with the machine. The calibration door is opened and closed without using any prevent the operator from beginning seeding without having first closed it.



Specifications					
	CCX 9000-21	CCX 9000-34	CCX 9000-45		
Overall Length	4'10" / 1.5 m	5'4" / 1.6 m	5'3" / 1.6 m		
Overall Height	4'9" / 1.4 m	5'3" / 1.6 m	5'4" / 1.6 m		
Weight (Empty, without Adaptation)	309 lb / 140 kg	345 lb / 157 kg	422 lb / 191 kg		
Hopper Capacity	21 cu. ft. / 27 bu. / 600 L	34 cu. ft. / 27 bu. / 963 L	45 cu. ft. / 36 bu./ 1274 L		
Blower Rotation Frequency	2300 - 4300 RPM				
Metering Unit	Volumetric metering unit with electric drive				
Small Seed Splines	Standard				
Speed Signal	From tractor (standard) or using tractor wheel speed sensor (option)				
Agitator Shaft	Standard: Engaged/disengaged without wrenches				
Control Terminal	Quantron S-2 with 5.5" color screen				
Units Used	User defined: Imperial or Metric				
In-Cab Application Rate Adjustment	Standard: Rate can be adjusted to +/- 99% of target rate on the fly				
Automatic Start/Stop	Standard				
Calibration Assistant	Standard				
Area Meter	Standard				
Filling Platform and Access Ladder	Standard				

	7	
3		
	π	
3-0		
and a		
		-

#### WEIGHT TEST

The quantity of seed collected is weighed and the weight is entered into the Quantron S-2. The system then provides the operator the final calibration setting.



#### SEED SPLINES

Small seed splines are used to reduce the volume of the metering unit when working with the metering unit automatically as the small seeds at low rates. They are engaged or disengaged without adding or removing any components from the metering unit, and the Quantron S-2 indicates their requirement during the calibration process.

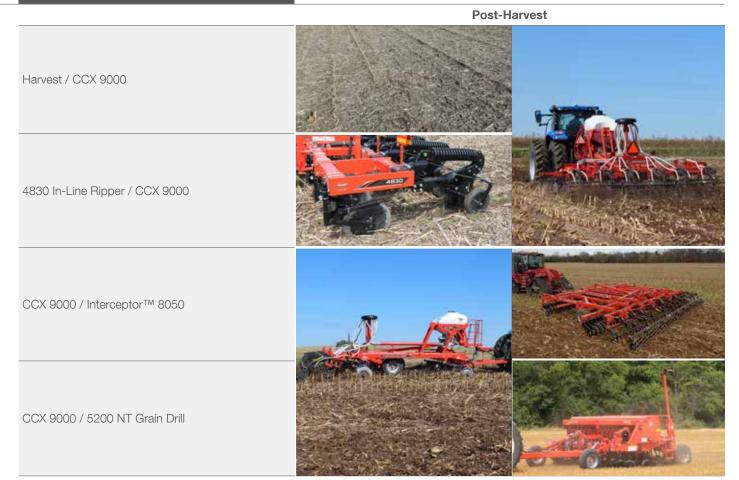


**IMPLEMENT SWITCH** The implement switch stops and starts Excelerator<sup>®</sup> is lifted in and out of work.

EXCELERATOR® Model	8005-11	8000-14 / 8005-14	8000-20 / 8005-20	8000-25 / 8005-25	8000-30 / 8005-30	8005 - 34
Number of Diffusers	9	12	16	20	24	24
Transport Width with CCX 9000	12'9" / 3.8 m	15'3" / 4.7 m	12'4" / 3.75 m	13'2" / 4 m	15'3" / 4.6 m	18' / 5.5 m
Transport Height with CCX 9000	10' / 3 m	10' / 3 m	10'9" / 3.2 m	12'11" / 3.9 m	13'6" / 4.1 m	14'9" / 4.5 m

# **PRODUCT SYSTEMS**

### PRODUCT SYSTEMS



Printed in USA QP9000US 0619 - © Copyright KUHN 2019



### KUHN NORTH AMERICA, INC.

Corporate Headquarters 1501 West Seventh Avenue - Brodhead, WI 53520

Information given in this document is only for informational purposes and is non-contractual. Our machines are in compliance with North American safety standards. In our literature, and for improved illustration of certain details, some safety devices may not be in operating position. When operating these machines, these devices must be operated in accordance with the requirements indicated in the operator's manuals and assembly manuals. We reserve the right to change any designs, specifications or materials listed without further notice. Machines and equipment in this document can be covered by at least one patent and/or registered design. Trademarks cited in this document may be registered in one or several countries.

