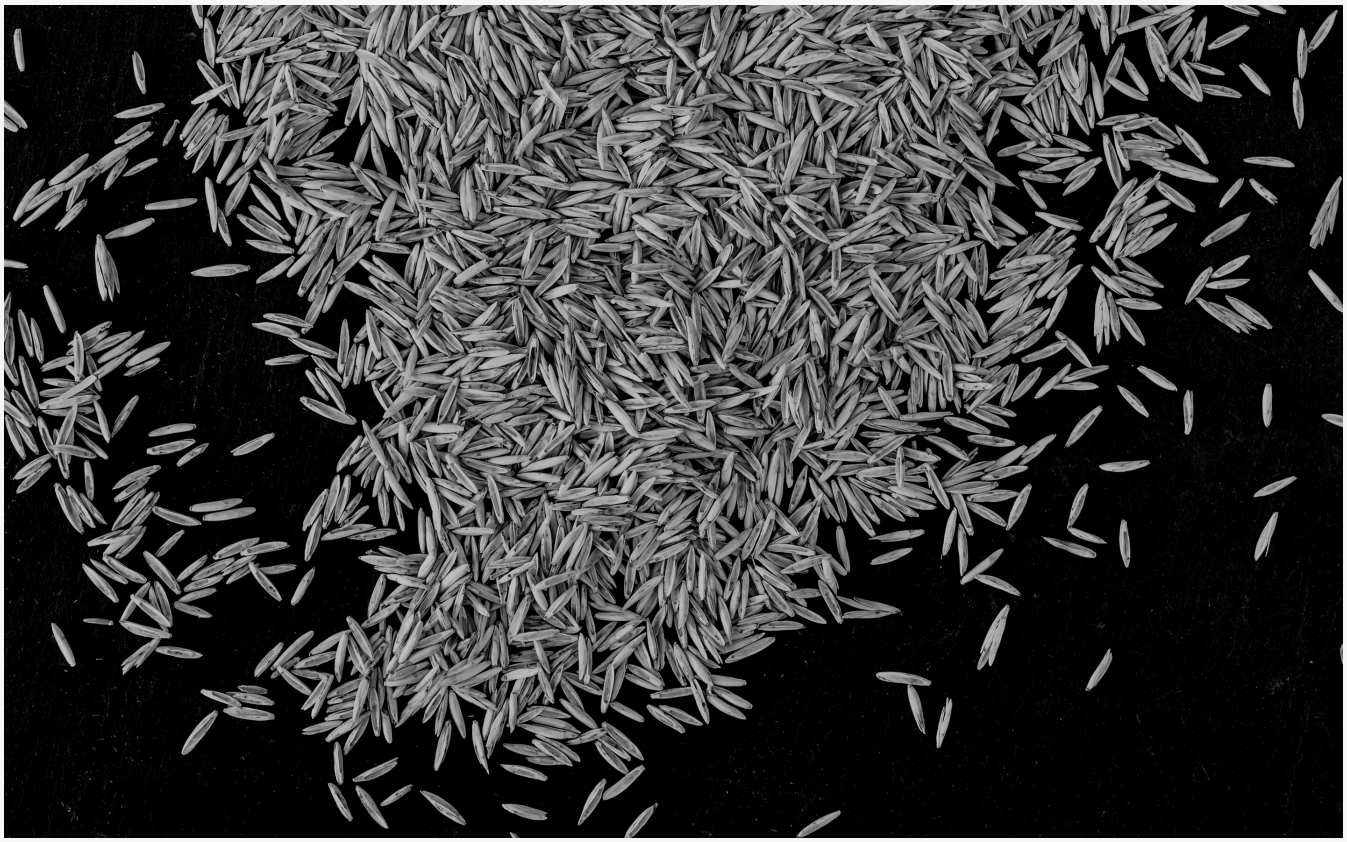
Forever Green

THE LAND INSTITUTE

THE LAND INSTITUTE AND FOREVER GREEN INITIATIVE

FALL 2021

KERNZA® PLANTING EQUIPMENT RECOMMENDATIONS



NOTES ON PLANTING EQUIPMENT SETTINGS

THESE SETTINGS WERE PROVIDED BY JAKE JUNGERS, ASSISTANT PROFESSOR AT THE UNIVERSITY OF MINNESOTA FOREVER GREEN INITIATIVE.

THEY ARE BASED ON HIS EXPERIENCE WITH SPECIFIC EQUIPMENT. THEY ARE NOT MEANT TO TAKE THE PLACE OF FARMER KNOWLEDGE OR OF EQUIPMENT CALIBRATION AT THE TIME OF PLANTING.

EQUIPMENT	DETAILS
GREAT PLAINS 606 NT	SEED USED WAS 8 MG PER SEED. SET THE DRIVE SPEED TO 4 AND SEEDING RATE SETTING AT 11: THIS WAS EQUIVALENT TO 16 LBS PER ACRE FOR OATS. THIS RESULTED IN ABOUT 10 POUNDS PER ACRE ON 7.5" ROWS
GREAT PLAINS 1006 NT	7.5" ROW SPACING WITH 15 OPENERS. WE TAPED CLOSED EVERY OTHER METER TO ACHIEVE 15" ROW SPACING. SET THE DRIVE SPEED TO 4 AND SEEDING RATE SETTING TO 30 TO RESULT IN ABOUT 22 G PER 100' OF ROW. AT 0.008G PER SEED, THIS WAS 25 SEEDS PER FOOT, RATHER HIGH. SO THE OPERATOR DIALED THE SEEDING RATE BACK TO 25, WHICH WAS ABOUT 17G PER 100 FEET OF ROW.
JD 8300 GRAIN DRILL	6" ROW SPACING, TAPED UP METERS TO SEED EVERY THIRD ROW FOR 18" ROW SPACING. DRIVE SPEED AT 6, LOCK LEVER 14: SETTING FOR 52 LBS OF OATS PER ACRE. RESULTED IN 9 GRAMS PER 100 FEET. OR ABOUT 11 SEEDS PER FOOT. 27 POUNDS OF SEED WAS PLANTED ON 5 ACRES, OR 5.4 LBS PER ACRE. RESULTED IN A BEAUTIFUL STAND
JD 1560 NO TILL DRILL	7.5" ROW SPACING. ONLY USED REAR OPENERS FOR 15" SPACING. SETTING AT 35 RESULTED IN 14.3 G SEED PER 100'. AT 0.008G PER SEED, THIS WOULD BE ABOUT 17 SEEDS PER FOOT.
TRUAX FLEX II 88 SPROKET #4	KERNZA SEEDED THROUGH THE GRAIN BOX WITH AGITATORS. SEEDED WITH 2 ROWS BLOCKED IN BETWEEN KERNZA ROWS, SO 24" ROW SPACING. BOX SEEDING RATE DIAL WAS ON 3, WHICH RESULTED IN 13.9 G PER 100 FEET, OR A SEEDING RATE OF 6.6 POUNDS PER ACRE

EQUIPMENT	DETAILS
CRUST BUSTER ALL PLANT 4615	24 OPENERS ON 7.5" ROWS. KERNZA WENT INTO THE LEGUME BOX WITH DOWN PRESSURE ADJUSTED AS LIGHTLY AS POSSIBLE (150-200 LBS). FIRST NOTCH FOR STARTING WAS 1/2". TAPED EVERY OTHER TUBE TO ACHIEVE 15" ROW SPACING. UNITS OF ADJUSTMENT ARE "ROUNDS", HOW OPEN THE METERS ARE. A CHANGE IN 1 ROUND WAS ABOUT 13.6 G SEED. STARTED AT 8 ROUNDS WHICH PRODUCED 109 G SEED PER 600 FEET OF ROW. REDUCED RATE BY 2.25 ROUNDS AND GOT 75 G SEED PER 600 FEET. THIS RESULTED IN ABOUT 15 SEEDS PER FOOT. WE USED 150 LBS OF SEED FOR 11 ACRES AT THIS SETTING.
JD 8300 GRAIN DRILL	6" ROW SPACING, TAPED EVERY OTHER ROW FOR 12" ROWS. DRIVE SPEED SET AT 6, USED LARGE SIDE OF THE METERS. WITH LOCK LEVER AT 15, WE GOT 21 G SEED PER 100 FT. ADJUSTED THE LOCK LEVER TO 14 AND GOT 14 G SEED PER 100 FT. THAT SUPPOSEDLY PLANTED 17 SEEDS PER FOOT, BUT RESULTING POPULATION DID NOT RESEMBLE THIS.
JD 520	20' DRILL WITH 7" ROW SPACING, TAPED EVERY OTHER METER TO ACHIEVE 14" ROW SPACING. STARTED WITH SETTINGS FOR OATS, 52 LBS PER ACRE, WHICH WAS LOCK LEVER AT 18, GEARBOX AT B5. THIS PRODUCED 44 G PER 100 FEET. SWAPPED TO SMALL CUPS IN THE FEEDER AND ADJUSTED LOCK LEVER TO 9 AND GEAR TO D1.

SEEDING RATES

DEVELOPED BY: COLIN CURETON AND DR. JAKE JUNGERS
LAST UPDATED: JULY, 2020

- This chart provides seeding rate guidance to Kernza growers based on seed germination (%) and row spacing (inches)
- Recommendations are based on an optimum seeding rate of 10 lbs/acre pure live seed (100% germination) at 6-inch row spacing
- There will be several lots of Kernza seed available in 2020, each with varying germination rates. Substantial differences in germination rates should be reflected in seed pricing. Make sure you know the germination rate and cost of seed available before planning seed needs and finalizing a purchase.

In no way is this chart a replacement for calibrating your equipment to seed the crop.

All calculations are based on a planting density of 18 plants / square foot (78,260 plants / acre) or 10 lbs / acre on 6" rows.

ROW SPACING (INCHES)	GERMINATION RATE (%)						
	40	50	60	70	80	90	100
6	25	20	16.7	14.3	12.5	11.1	10
7.5	20	16	13.3	11.4	10	8.9	8
12	12.5	10	8.3	7.1	6.3	5.6	5
15	10	8	6.7	5.7	4.4	4.4	4
24	6	5	4	4	3	3	3