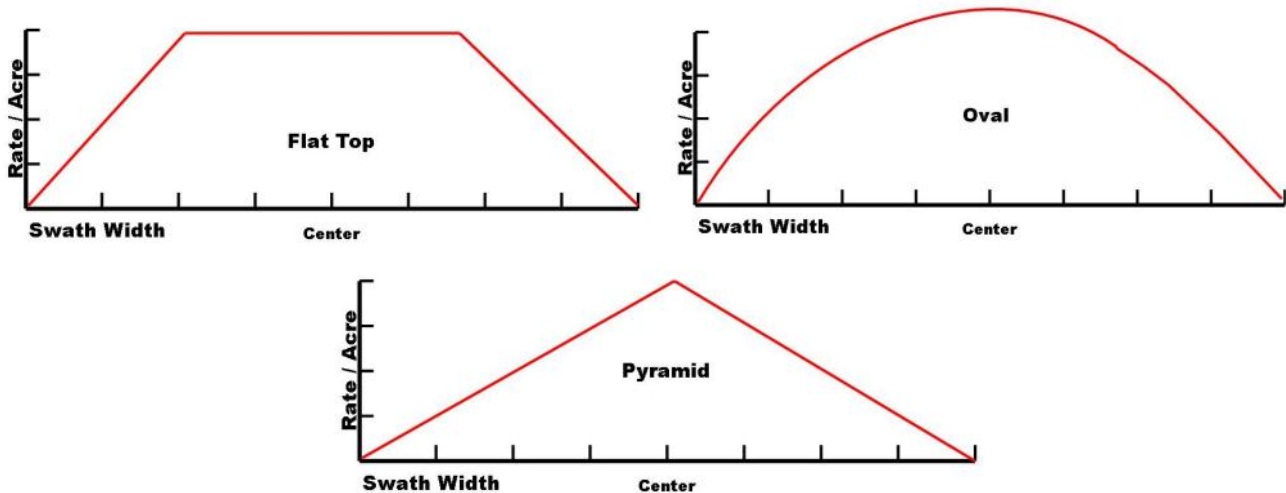


# Correcting Your Spread Pattern

Newton Crouch Spreaders are designed to give the Flat Top or Oval (best overall) Patterns. They can produce a pyramid when set properly. Spinner speed and chute placement are the most critical adjustments that will change a flat top to oval.

## Desirable Pattern Types



### The most common problems that cause a poor spread pattern are:

- A. Poor material quality
- B. Poor judgment by the operator
- C. Material not able to meet swath width
- D. Motor mount is bent
- E. Material is leaking through and not being directed by the chute
- F. Chute not clean in the front compartment along with the rear compartment
- G. Chute incorrectly set for dish/blade material
- H. Chute divider is not correctly set
- I. Improperly adjusted flow divider (on parallel hydraulics)
- J. Spinner speed incorrect
- K. Power unit's RPM's outside operation window
- L. Malfunctioning hydraulic components, pump, flow control, pressure relief valve, or wheel control
- M. Dishes & blades are installed incorrectly. Check hole pattern
- N. Dishes not centered under chute evenly
- O. Dishes are not level
- P. Dishes not turning in correct rotation—left turns clockwise and right turns counter-clockwise
- Q. Dimension not properly set on dishes
- R. Worn, bent, or cracked spinner, installing blades manufactured by other company. Blades MUST be Newton Crouch Inc. for proper pattern

**A. Poor material quality and C. Material not able to meet swath width desired**



The essential facts are:  
 A good material will have components that are essentially the same size. Small components tend to go to the center and are broadcast first. Smaller particles also do not travel as far as larger particles. Also, when components are unequally sized, Fertilizer Segregation tends to occur. There is an extensive discussion on Fertilizer Segregation in a separate Technical Tip that goes to more detail about this phenomenon.



Moisture is another factor. Wet material does not spread freely and may clump and cause streaking.



**G. Chute incorrectly set for dish / blade material**



The chute scale is required for various materials and changes rates over different swaths. The chute is moved in and out by the crank.

**ALWAYS** measure from the front end of the chute slide

Chute settings are shown on a separate decal located on the back of the spreader (or on a separate sheet based on test data collected by Newton Crouch Inc.) These settings are approximate and will vary for different materials, conditions and blades. The chute directs the product onto the dishes.

Gate settings are shown on a separate decal located on the back of the spreader (or on a separate sheet based on test data collected by Newton Crouch Inc.) The gate controls the amount of product (measured in lbs/acre) that is being spread over the swath.

**NEWTON CROUCH INC. • GRIFFIN, GA • (770) 227-1234**  
**DANGER: BEFORE ADJUSTING SPREADER TURN OFF POWER SUPPLY**  
**PULL TYPE - 24 INCH BED CHAIN**

**Fertilizer**  
 45 Foot Swath with 4.8 Drive Wheel  
 12 Jack Shaft to 36 Rear Roller Sprocket Ratio  
 Use for 1200W to 2410S Spreader  
 Use for 1200W to 2410S Spreader

Gate	Pounds per Acre	Gate	Pounds per Acre
1.0	1200	1.0	1200
1.25	1500	1.25	1500
1.5	1800	1.5	1800
1.75	2100	1.75	2100
2.0	2400	2.0	2400
2.25	2700	2.25	2700
2.5	3000	2.5	3000
2.75	3300	2.75	3300
3.0	3600	3.0	3600
3.25	3900	3.25	3900
3.5	4200	3.5	4200
3.75	4500	3.75	4500
4.0	4800	4.0	4800
4.25	5100	4.25	5100
4.5	5400	4.5	5400
4.75	5700	4.75	5700
5.0	6000	5.0	6000
5.25	6300	5.25	6300
5.5	6600	5.5	6600
5.75	6900	5.75	6900
6.0	7200	6.0	7200
6.25	7500	6.25	7500
6.5	7800	6.5	7800
6.75	8100	6.75	8100
7.0	8400	7.0	8400
7.25	8700	7.25	8700
7.5	9000	7.5	9000
7.75	9300	7.75	9300
8.0	9600	8.0	9600
8.25	9900	8.25	9900
8.5	10200	8.5	10200
8.75	10500	8.75	10500
9.0	10800	9.0	10800
9.25	11100	9.25	11100
9.5	11400	9.5	11400
9.75	11700	9.75	11700
10.0	12000	10.0	12000

**Gate** 48 50 52 54 56 58  
 Density (lb/cu ft)

**Lime**  
 40 Foot Swath with 4.8 Drive Wheel  
 12 Jack Shaft to 36 Rear Roller Sprocket Ratio  
 Use for 2 to 3 Rows  
 1200W to 2410S Spreader  
 Use for 1200W to 2410S Spreader

Gate	Pounds per Acre	Gate	Pounds per Acre
1.0	1200	1.0	1200
1.25	1500	1.25	1500
1.5	1800	1.5	1800
1.75	2100	1.75	2100
2.0	2400	2.0	2400
2.25	2700	2.25	2700
2.5	3000	2.5	3000
2.75	3300	2.75	3300
3.0	3600	3.0	3600
3.25	3900	3.25	3900
3.5	4200	3.5	4200
3.75	4500	3.75	4500
4.0	4800	4.0	4800
4.25	5100	4.25	5100
4.5	5400	4.5	5400
4.75	5700	4.75	5700
5.0	6000	5.0	6000
5.25	6300	5.25	6300
5.5	6600	5.5	6600
5.75	6900	5.75	6900
6.0	7200	6.0	7200
6.25	7500	6.25	7500
6.5	7800	6.5	7800
6.75	8100	6.75	8100
7.0	8400	7.0	8400
7.25	8700	7.25	8700
7.5	9000	7.5	9000
7.75	9300	7.75	9300
8.0	9600	8.0	9600
8.25	9900	8.25	9900
8.5	10200	8.5	10200
8.75	10500	8.75	10500
9.0	10800	9.0	10800
9.25	11100	9.25	11100
9.5	11400	9.5	11400
9.75	11700	9.75	11700
10.0	12000	10.0	12000

**Gate** 18 19 20  
 Density (lb/cu ft)

**CHUTE SETTINGS**  
 SET CHUTE SCALE TO MATCH POUNDS PER ACRE

CARBON STEEL & BLADES	STAINLESS STEEL & BLADES	POUNDS PER ACRE
1	4	1200
1.75	2.75	1400
4.75	3.75	1600
4.75	2.75	1800
4.5	3.5	2000
4.5	3.5	2200
4.5	3.5	2400
4.5	3.5	2600
4.5	3.5	2800
4.25	3.25	3000
4.25	3.25	3200
4.25	3.25	3400
4.25	3.25	3600
4	3	3800
4	3	4000
4	3	4200
3.75	2.75	4400
3.75	2.75	4600
3.75	2.75	4800
3.5	2.5	5000
3.5	2.5	5200
3.5	2.5	5400
3.25	2.25	5600
3	2	5800
3	2	6000
2.5	1.5	6200

For Lime applications, adjust to size on the scale.  
 Note: Any change in swath, drive wheel, adjusted rate, or material weight will change the pounds per acre setting and chute setting.  
 For material: **DO NOT SET GATE BELOW 1 1/2 INCHES**  
 Read NCI Parts Book for further instructions and optional diagrams.  
 Newton Crouch Inc. • Griffin, GA • (770) 227-1234  
 NCI-SPREADER-12-16-12

### H. Chute divider is not correctly set

Divider should be centered in bed chain.



### J. Spinner Speed Incorrect

Your spinner speed should be 650 RPM's. A tachometer for testing RPM's (revolutions per minute) should be used to confirm this speed.

SM-11765T57



### Q. Dimensions are not properly set on dishes.

BAFFLE PLATE:  STAINLESS  CARBON STEEL

IF A = 3/16' USE THIS COLUMN       ACTUAL      IF A = 1/4' USE THIS COLUMN

B = 6 9/16"	_____	6 1/2"
C = 13 1/16"	_____	13"
D = 8 9/16"	_____	8 1/2"
E = 19 9/16"	_____	19 1/2"
F = 11"	_____	11"
G = R = L =	R    L	R = L =
H = 25 1/2"	_____	25 1/2"
I = 7 3/4"	_____	7 3/4"
J = YES <input type="checkbox"/>	ALIGN FRONT TO BACK 6 RIGHT / 6 LEFT	
K = YES <input type="checkbox"/>	ALIGN FRONT TO BACK 6 RIGHT / 6 LEFT	

**\*\*GATE HEIGHT CHECK AT\*\***  
1 1/2"  2"  9"

ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	BOTTOM OF SIDERUNNER TO TOP OF MOTOR MOUNT	E	BAFFLE PLATE TO END OF SIDERUNNER
H	CENTER OF DISH TO CENTER OF DISH	D	BAFFLE PLATE TO #7 ON CHUTE SCALE
G	AMOUNT OF BLADE UNDERNEATH CHUTE - L&R SHOULD BE *	C	BAFFLE PLATE TO CENTER OF DISH
F	END OF SIDERUNNER TO #7 ON CHUTE SCALE	D	BAFFLE PLATE TO CENTER OF SHAFT
		A	THICKNESS OF BAFFLE PLATE

CUSTOMER: \_\_\_\_\_

SERIAL #: \_\_\_\_\_

INSPECTED BY: \_\_\_\_\_

<p>LAST PRINTING DATE: 12.07.05</p> <p>UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES. DO NOT SCALE DRAWING.</p> <p>NOTE: IF ACTUAL MEASUREMENTS ARE ± OR - 1/8" FROM TARGET CORRECT &amp; NOTIFY SUPERVISOR.</p>	<p>FILE LOCATION: DATA/COMPUTERBOOKS/INDIVIDUAL</p> <p>TOLERANCES: FRACTIONS ± 1/32 ANGULAR ± 1/2</p> <p>DESIGNED BY: R. SHEPPARD</p> <p>DATE: 12.07.05</p> <p>APPROVED BY: J.S. CROUCH</p>
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NEWTON CROUCH INC.  
GRIFFIN, GA.

TITLE: DIMENSION SHEET FOR UNITS	SH: 1 of 1	EQUIPMENT/DEMSHEET
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### M. Dishes & Blades are installed incorrectly. Check hole pattern

When standing directly behind the spreader facing the chute screw, your left hand is the left side of the spreader and your right hand is the right side of the spreader.

Left dishes & blades go on the left side of the spreader



Right dishes & blades go on the right side of the spreader



The upper edges of the blades should point in the direction of your fingers when your thumb is pointing up.

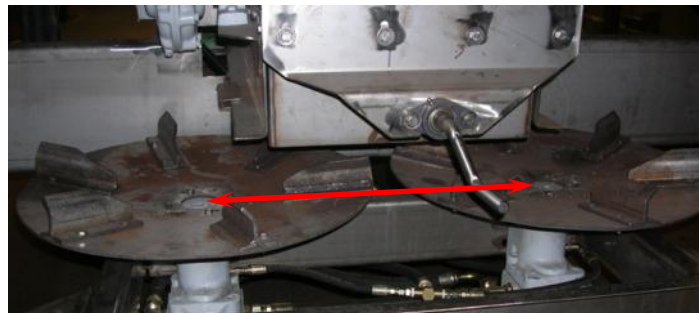


Blades should be on a 90° bend and straight across—front of one blade to back of opposite blade

Dishes are interchangeable—BLADES ARE NOT!  
Never mix 304 stainless blades and mild steel blades on your unit. The different types of blades require different chute settings.

### Are the dishes spaced correctly?

The dishes should measure 25½" center to center





**Are the dishes the same height?**

The height of the spinners will vary with chassis height and tire size.



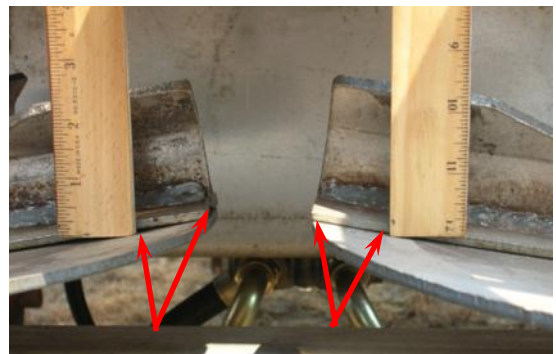
Dish on left is 33¼” above the ground

Dish on right is 41¼” above the ground

**N. Dishes are not centered under chute evenly.**



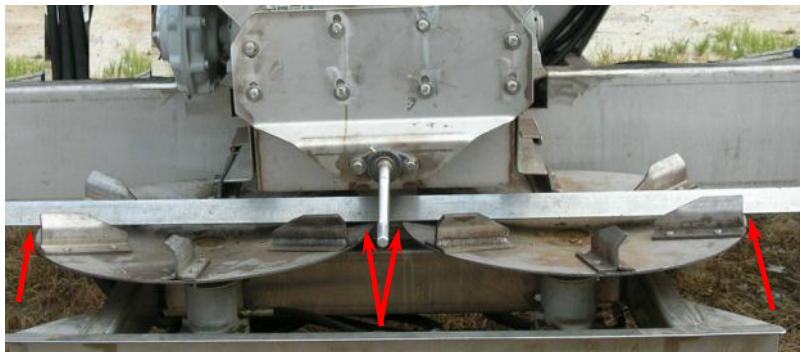
Reach down through top of chute with a straight object



The measurements should be equal.

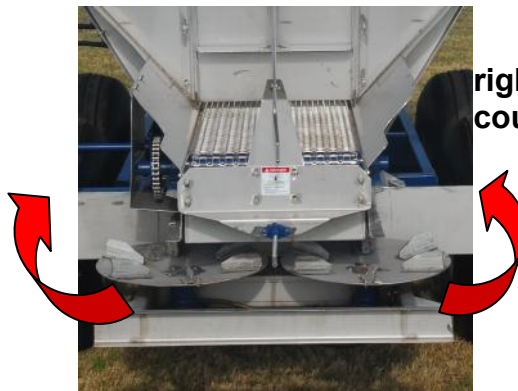
**O. Dishes are not level**

The bar should touch the dishes on the outer edges evenly.



**P. Dishes not turning in correct rotation**

left turns clockwise

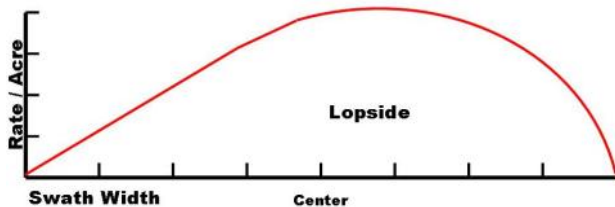


right turns counter-clockwise.

## There are a few generalities that may help correct your pattern:

1. As the chute is moved to the rear of the spreader, material is taken from the center of the pattern and placed more to the outside of the pattern.
2. An increase in spinner speed (RPM) will take more material from the center and put it farther to the outside of the pattern. However, excessive RPM's will cause the material to be thrown up into the air or beaten into dust, causing a poor pattern.
3. Advancing the outer tip of the spinner blade in the direction of rotation will take some of the material from the center of the pattern and move it farther to the outside. Adjust only one set of blades at a time!

## Undesirable Pattern Types



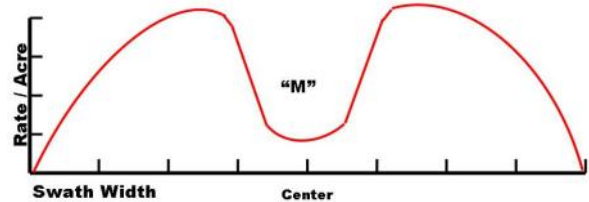
The “**Lopsided**” left or right pattern may result if the twin spinner spreaders are operated with improperly adjusted material dividers directing more material to one side than to the other. Operating on slopes and hillsides without an effective material divider may also cause a greater amount of material to the lower side than to the upper side.

Improve the “**Lopsided**” pattern by making one or more of the following adjustments:

- ◆ Make sure material divider is in the center of the bed chain to evenly distribute the material.
- ◆ Move the chute in toward the spreader body (Lower the numbers)
- ◆ Decrease spinner speed to fill in behind the spreader.
- ◆ Move the spinner blades in the opposite direction of the spinner rotation (limited adjustment—adjust only pair at a time)

Improve the “**M**” pattern by making one or more of the following adjustments:

- ◆ Move the chute in toward the spreader body (Lower the numbers)
- ◆ Decrease spinner speed to fill in behind the spreader.
- ◆ Move the spinner blades in the opposite direction of the spinner rotation (limited adjustment—adjust only pair at a time)



The “**W**” pattern is caused by the same condition that causes the “**M**” except a heavy band of material is applied in the center in addition to the bumps on the left and right sides. The heavy application in the center of the swath may be due to an improperly adjusted chute and/or material divider, or leaks permitting the material to fall directly on the ground behind and under the spreader rather than hitting the spinners.

Improve the “**W**” pattern by making one or more of the following adjustments:

- ◆ Locate the cause of the heavy application in the swath center.
- ◆ Move the chute in toward the spreader body (Lower the numbers)
- ◆ Decrease spinner speed to fill in behind the spreader.
- ◆ Move the spinner blades in the opposite direction of the spinner rotation (limited adjustment—adjust only pair at a time)

## More problems that cause a poor pattern:

1. Rear roller not matching the rear roller cover plate due to incorrect installation of bearing or wear.
2. Worn rear roller cover plate.
3. Worn or missing front flap.
4. Hole in the floor of hopper.
5. Spacing of the swath.
6. Unit not clean of build-up on blades, baffle and dishes.
7. Wet material sticking to conveyor.
8. Shifting gears or hard bump over collection pan area.

## NCI keeps records for each spreader or sprayer manufactured.

- These records are stored by serial number and will have complete information on your equipment as built.
- It will not reflect any changes made by the purchaser or other alterations.
- There may be differences in replacement part numbers due to technical improvements or changes in vendors / vendor supplies.



The Spreader of Choice

**Before you call NCI for technical assistance, know the serial number from your equipment located on the left side rail on the unit.**

**1-800-241-1350**