



JANG SEEDER

How to Maximize Its Potential



Johnny's
Selected Seeds

50th
ANNIVERSARY

TODAY'S PRESENTERS



Jen Goff
Product Manager



Rachel Katz
Trial Technician

An aerial photograph of a large agricultural research farm. The scene is dominated by several long, covered walk-in greenhouses with translucent roofs. To the right, there are extensive rows of crops, likely corn, planted in neat, parallel lines. In the foreground, a large, long greenhouse is visible, with various pieces of farm machinery, including tractors and a combine harvester, parked nearby. The background features a dense forest of green trees and a small pond. The overall setting is a well-maintained and productive agricultural facility.

Johnny's Research Farm

JOHNNY'S RESEARCH FARM

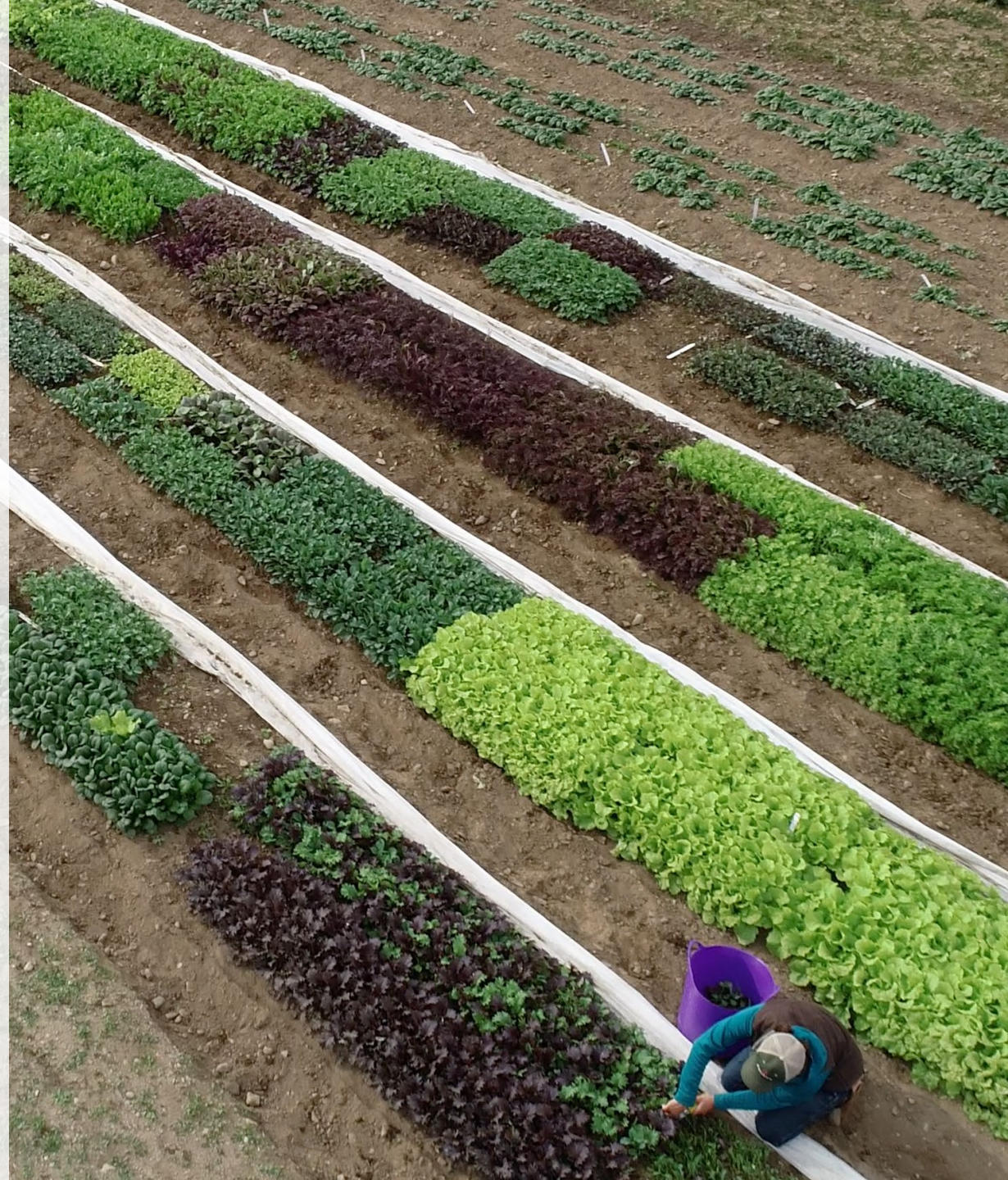
Located in Albion, Maine

- 200 acres managed
- 27 miles of beds in production
- Emphasis on soil health:
 - Wide production spacing to facilitate crop rotations
 - 50+% of acreage in cover cropping annually
 - Extensive organic mulch inputs



TRIALING & SELECTION

- **Approx. 3,000 varieties trialed in 2022, resulting in over 100 products added**
- **Year-round effort to select superior new products and substitutions**
- **Includes regional trials across the country with growers, universities, field day events, & more**



Benefits of the Jang Seeder

- Sows a wide range of crops
- Highly customizable
- Limits seed waste and the need for thinning, saving you money and labor
- Accurate seeding in a variety of soil conditions
- Accessories available





VIDEO
Anatomy of the Jang JP-1

Jang Seed Roller 101

- Interchangeable
- Custom hole sizes for a wide variety of seeds
- Made from durable, static-resistant plastic
- Over 60 roller options available
- Holes come in different shapes:
 - Bowl-Shape
 - V-Groove
 - Cross
 - Other Shapes



X-24

F-24

LJ-12

XY-24

N-6

Seed Roller Names

- **Letters = Hole Size & Shape**
 - All rollers with the same letter have the same size holes (e.g., LJ-12, LJ-24)
 - Seed must be paired with correct hole size
- **Numbers = Number of Holes in Roller**
 - All rollers with the same number have the same number of holes (e.g.: LJ-12, X-12)
 - Correlates to in-row spacing range



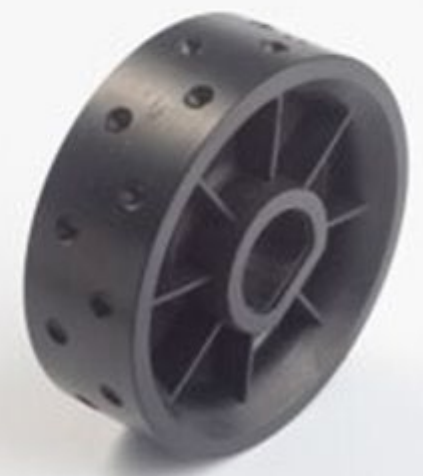
LJ-12



LJ-24



X-12



X-24

Roller Selection: Seed Shape

- Round seeds work best
- Pelleting can help with seed uniformity
- Textured seeds can be challenging, but not impossible:
 - Lift Brush
 - Remove Felt-Covered Plate
- Long or irregularly shaped seeds are not compatible with the Jang... sorry flower growers :(



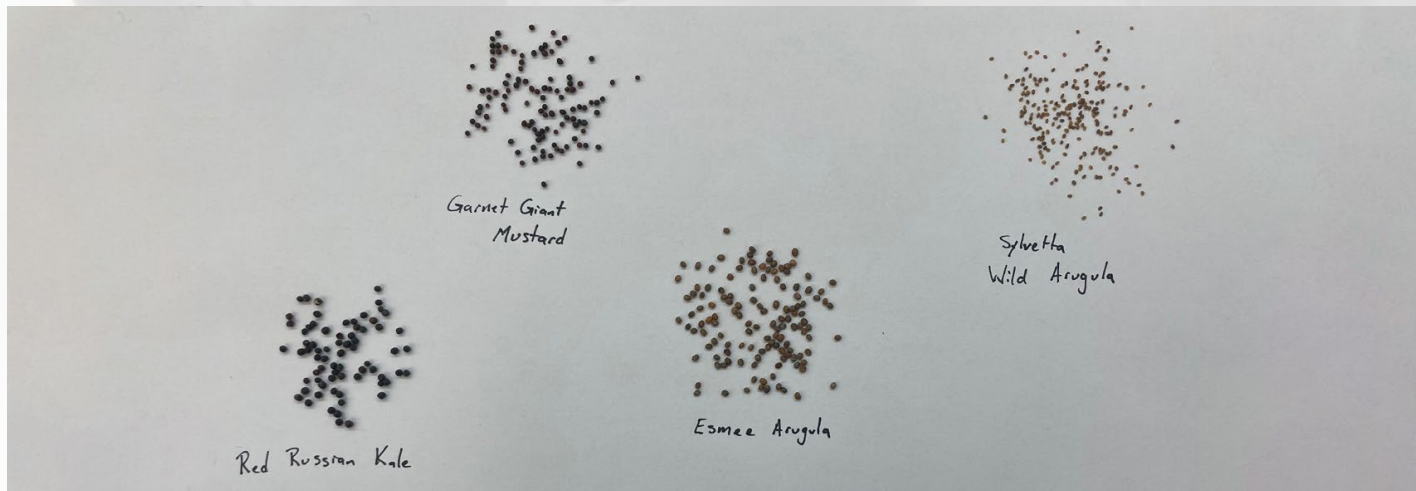
Roller Selection: Seed Size

- JP Series – Designed for small to medium-sized seed
- Use the size gauge to approximate seed size and guide roller choices
- Ideally, seeds rest neatly inside the holes
- Always test your seeds before sowing in the field!
- Seed size can change depending on growing conditions and sourcing.
- TD Series – Designed for large seeds



Seed Uniformity

- Variation in seeds can lead to inconsistent seeding in the field
- Large, heavy seeds can settle to the bottom of the hopper
- Choose uniform seeds whenever possible
- Mixes can be tricky
- Check inside the hopper to be sure your seeds are sowing at the correct rate and mix it up if needed
- Sized seeds can help with uniformity, but not always necessary



Jang Resources



955 Benton Ave., Winslow, ME 04901 U.S.A. • Phone: Toll-Free 1-877-564-6697 • Fax: 1-800-738-6314 • Web: johnnyseeds.com • Email: service@johnnyseeds.com

JANG JP SERIES SEEDERS ROLLER SIZES AND APPLICATIONS COMPARISON CHART



Part #	Roller Code	Hole Width* Inches mm	Hole Depth mm	# of Holes in Roller	Spacing Range**	Typical Application ***
A-6	9674 A-6	17/32 13.5	6	6	4-10"	Large Sunflowers, Common Oats, and Chickling Vetch
	9075 AA-6	15/32 12	6	6	4-10"	Small Peas, large Sunflowers and Common Oats (if interseeding with peas)
AA-6	7785 C-6	7/16 11	5.5	6	4-10"	Popcorn, large Sunflowers, and Barley
	7140 C-12	7/16 11	5.5	12	2-5"	Popcorn, large Sunflowers, and Barley
	7139 B-12	25/64 10	7.5	12	2-5"	Small Soybeans, Small Nasturtiums and Field Peas
C-6	7786 BL-12	25/64 10	7.5	12	2-5"	Used to apply granular or powdered fertilizer with Fertilizer Assembly
	7787 G-6	23/64 9	4.5	6	4-10"	Pelleted Fennel, pelleted Parsnip, medium Sunflowers, Sweet Peas (flower), Buckwheat, Cowpeas, and Field Peas
B-12	7031 G-12	23/64 9	4.5	12	2-5"	Pelleted Fennel, pelleted Parsnip, medium Sunflowers, Sweet Peas (flower), Buckwheat, Cowpeas, and Field Peas
	7315 R-12	23/64 9	3.5	12	2-5"	Euphorbia, Medium Sunflowers, Six-Row Barley, Hulless Oats, and Winter Wheat
R-12	7316 R-24	23/64 9	3.5	24	0.5-2.5"	Medium Sunflowers, Six-Row Barley, Hulless Oats, and Winter Wheat
	7790 Q-6	5/16 8	3	6	4-10"	Small Melons, medium Sunflowers, and Lovage
	7317 Q-12	5/16 8	3	12	2-5"	Small Melons, medium Sunflowers, and Lovage
G-6	6920 LV-12	5/16 8	5	12	2-5"	The best choice for Swiss Chard and large-seeded beets.
	6930 LV-24	5/16 8	5	24	0.5-2.5"	The best choice for Swiss Chard and large-seeded beets.
Q-12	7144 L-J-6	19/64 7.5	3.7	6	4-10"	Small-seeded Beets, Okra, Spinach (seeding heavy), Cilantro, small Sunflowers, Hairy Vetch, and #13 pelleted seed (Carrots, Lettuce, Onion, Swiss Chard, Basil)
LJ-6	9672 L-A-12	19/64 7.5	3.7	12	2-5"	Small-seeded Beets, Okra, Spinach (seeding heavy), Cilantro, small Sunflowers, Hairy Vetch, and #13 pelleted seed (Carrots, Lettuce, Onion, Swiss Chard, Basil)
L-12	7147 L-J-24	19/64 7.5	3.7	24	0.5-2.5"	Small-seeded Beets, Okra, Baby Leaf Spinach (seeding heavy), Cilantro, small Sunflowers, Hairy Vetch, and #13 pelleted seed (Carrots, Lettuce, Onion, Swiss Chard, Basil)
	7788 L-12	9/32 7	2.5	12	2-5"	Spinach, Cumin, Agrostemma, Centaurea, Ryegrass, Spring Wheat, and Sudangrass
MM-24	7809 L-24	9/32 7	2.5	24	0.5-2.5"	Baby Leaf Spinach, Ryegrass, Spring Wheat, and Sudangrass
	7789 MM-1	15/64 6	3.5	4	6-14"	Multiseed pelleted Parsley
	9682 MM-6	15/64 6	3.5	6	4-10"	Multiseed pelleted Parsley
MJ-12	9675 MJ-12	15/64 6	3.5	12	2-5"	Multiseed pelleted Parsley, and Chopped Radish
	9400 MJ-24	15/64 6	3.5	24	0.5-2.5"	Multiseed pelleted Parsley, and Chopped Radish
	9273 MM-12	15/64 6	2.5	12	2-5"	Cilantro (Monogerm), Bells of Ireland, Dillscus, and Sudangrass
F-12	9683 MM-24	15/64 6	2.5	24	0.5-2.5"	Cilantro (Monogerm), Bells of Ireland, Dillscus, and Sudangrass
	7808 F-6	13/64 5	2.5	6	4-10"	Large Radish, Carrots with #12.5 pellet, and Sage
	9448 F-12	13/64 5	2.5	12	2-5"	Large Radish, Carrots with #12.5 pellet, and Sage
M-12	9817 F-24	13/64 5	2.5	24	0.5-2.5"	Baby Leaf Kale, Brassica Mixes, Tokyo Bekana, large Radish, Carrots with #12.5 pellet
	9525 M-6	13/64 5	2	6	4-10"	Endive, small Daikon Radish, Anise, Garlic Chives, and Leaf Fennel
X-4	9163 M-12	13/64 5	2	12	2-5"	Tradise, small Daikon Radish, Anise, Garlic Chives, Leaf Fennel, and millet, Brussels Sprouts, Cabbage, Cauliflower, Chicory, Collards, Kale, Lettuce, Mache, Onion, small Radish, Shallots, Dill, Nigella, Phlox, Pelleted Dianthus & Larkspur
	9077 X-4	5/32 4	2	4	6-14"	Brussels Sprouts, Cabbage, Cauliflower, Chicory, Collards, Kale, Lettuce, Mache, Onion, small Radish, Shallots, Dill, Nigella, Phlox, Pelleted Dianthus & Larkspur
Y-12	9164 X-6	5/32 4	2	6	4-10"	Brussels Sprouts, Cabbage, Cauliflower, Chicory, Collards, Kale, Lettuce, Mache, Onion, small Radish, Shallots, Dill, Nigella, Phlox, Pelleted Dianthus & Larkspur
YYJ-6	9385 X-12	5/32 4	2	12	2-5"	Brussels Sprouts, Cabbage, Cauliflower, Chicory, Collards, Kale, Lettuce, Mache, Onion, small Radish, Shallots, Dill, Nigella, Phlox, Pelleted Dianthus & Larkspur, cover crop mustards, and clover
	9730 X-24	5/32 4	2	24	0.5-2.5"	Baby Leaf Brassicas, Baby Leaf Chicory, Lettuce, Mache, Onion, small Radish, cover crop mustards, and clover
YX-12	7792 Y-4	9/64 3.5	1.5	4	6-14"	Broccoli, Brussels Sprouts, Cabbage, Chicory, Kale, Kohlrabi, Bunching Onion, Chives, Parsley, Arami, Bupleurum, and Rubbeckia
	7318 Y-6	9/64 3.5	1.5	6	4-10"	Broccoli, Brussels Sprouts, Cabbage, Chicory, Kale, Kohlrabi, Bunching Onion, Chives, Parsley, Arami, Bupleurum, and Rubbeckia
J-8	9368 Y-12	9/64 3.5	1.5	12	2-5"	Broccoli, Brussels Sprouts, Cabbage, Chicory, Kale, Kohlrabi, Bunching Onion, Chives, Parsley, Arami, Bupleurum, and Rubbeckia
	9056 Y-24	9/64 3.5	1.5	24	0.5-2.5"	Baby Leaf Brassicas, Arugula, Bunching Onion, Crimson Clover, and Millet
XY-12	9838 YYJ-6	1/8 3	1.7	6	4-10"	Basil and Columbine
	9373 YYJ-12	1/8 3	1.7	12	2-5"	Basil
XY-36	7143 YYJ-24	1/8 3	1.7	24	0.5-2.5"	Basil

* Round seed hole size indicated; alternate shapes are noted.
 ** Spacings are approximate, always test your seeding rates and adjust as necessary. In-row spacing is determined by # of holes in roller and adjustments to gearing ratios.
 *** The terms "small", "medium", and "large" refer to the seed size.

See more rollers on the next page



Jang Roller Testing Grid

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JANG ROLLER SIZING				
Roller Type	Hole Width (mm)	Hole Width (inches)	Hole Depth (mm)	Hole Shape
A	13.5	17/32	6	Bowl
AA	12	15/32	6	Bowl
C	11	7/16	5.5	Bowl
B	10	25/64	7.5	Bowl
G	9	23/64	4.5	Bowl
R	9	23/64	3.5	Bowl
LV	8	5/16	5	V-Groove
Q	8	5/16	3	Bowl
LJ	7.5	19/64	3.7	V-Groove
L	7	17/64	2.5	Bowl
MJ	6	15/64	3.5	V-Groove
MM	6	15/64	2.5	Bowl
F	5	13/64	2.5	Bowl
M	5	13/64	2	Bowl
X	4	5/32	2	Bowl
Y	3.5	9/64	1.5	Bowl
YYJ	3	1/8	1.7	V-Groove
YX	2.5	7/64	1.5	Bowl
YYX	2	5/64	1.8	Bowl

Testing Rollers: Install the roller you want to test that has a relative hole size to your seed. Add the seed to the hopper and turn the sprocket by hand to ensure the seed is coming out smooth, and that it's not skipping holes or breaking. Testing the seed in this 20-square grid will help you identify the approximate percentage of singles, doubles, skips, etc. Note: Each square represents 5% of the seed tested.

5%	5%	5%	5%	5%
5%	5%	5%	5%	5%
5%	5%	5%	5%	5%
5%	5%	5%	5%	5%

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Jang Resources



Jang JP Seeders • Roller Trial Results | SUNFLOWER Variety Cross-Reference Chart

Click on any Jang Roller Part # below, to view or purchase. (See separate spreadsheet for other flower crop varieties.)

Crop	Part #	Variety	Seed Type	Seeds per Pound	Labeled Seed Size	Seed Size, as Determined by Your Jang mm Gauge	Best Jang Roller Type	Desired In-Row Spacing	Recommended Jang Roller	Jang Roller Part #	Singulation	Trial Notes / Comments
Sunflower	1307	Sunbright	Raw	12,578	Unsize	10	C	2 – 5"	C-12	7140	No	C: 2-4 seeds/hole. 65% triples. Slight binding.
								4 – 10"	C-6	7785		
								8 – 20"	C-3	custom order*		
Sunflower	1503	Sunbright Supreme	Raw	10,980	Unsize	10.5	C	2 – 5"	C-12	7140	No	C: 1-3 seeds/hole. Mostly smooth with slight binding.
								4 – 10"	C-6	7785		
								8 – 20"	C-3	custom order*		
Sunflower	3395	SunFill™ Green	Raw	8,400	Unsize	12.5	C	2 – 5"	C-12	7140	No	C: 1-3 seeds/hole. Some binding.
								4 – 10"	C-6	7785		
								8 – 20"	C-3	custom order*		
Sunflower	3396	SunFill™ Purple	Raw	8,723	Unsize	10.5	AA	4 – 10"	AA-6	9075	No	AA: 1-3 seeds/hole. Mostly doubles and triples with slight binding; Other Roller Options- C: Similar results to AA.
								8 – 20"	AA-3	custom order*		
Sunflower	NA	Sunny	Raw	9,726	Unsize	10.5	C	2 – 5"	C-12	7140	No	C: 1-3 seeds/hole. Mostly smooth with slight binding.
								4 – 10"	C-6	7785		

In-Row Spacing

- Each JP Series Seeder includes 6 sprockets (#9, #10, #11(x2), #13, #14)
- Use two sprockets to set up your gearing
- Sprocket combinations determine the gear speed while in use
- Sprocket positioning and number of holes in the roller determine in-row spacing
- Now let's learn to read the Jang spacing chart!



Reading the Jang Spacing Chart

Spacing Chart for Series JP Seeders
*Spacings may change due to soil conditions

		Number of Teeth in Each Sprocket										
Rear		14	14	13	13	11	11	10	11	10	10	9
Front		9	10	10	11	10	11	11	13	13	14	14
Number of Holes	3 Hole	20	18	17	15	14	13	12	11	10	9	8
	4 Hole	15	14	12.5	11	11	10	9	8	7.5	7	6
	6 Hole	10	9	8	7.5	7	6.5	6	5.5	5	4.5	4
	12 Hole	5	4.8	4.5	4	3.5	3	2.8	2.8	2.5	2.5	2
	24 Hole	2.5	2.5	2.3	2	1.8	1.5	1.3	1.3	1	1	1

*Shaded area shows inches between seeds

Seeding Density: Field Peas

B-12 roller

G-12 roller



G-12 roller
with
9 R 14 F
gearing



G-12 roller
with
11 R 10 F
gearing





Factors to consider:

- Seed size
- Availability of fertility & water
- Desired harvest size
- Number of cuts
- Land constraints

Cheap Frills

Seeded with Y-24 roller on left and X-24 roller on right:

- Left is sparser, growing faster, has more oversized leaves
- Right is denser, growing more slowly, and holding a smaller leaf size for a longer period of time, even with the fastest growing leaves like Mizuna

Another Consideration: Variety Selection

- Varieties react differently from one another at different densities.
- Can't always predict how a variety will react based on the performance of another variety



Runaway
Y-24 roller

Runaway
X-24 roller



Red Cloud
Y-24 roller



Flashy Troutback

Top: XY-36; Bottom: XY-24



Black Seeded Simpson

Left: XY-24; Right: XY-36

Higher Density can Mean:

- More upright
- Petioles get narrower and longer
- Stays at baby leaf stage longer
- Bolts a little faster
- Can cause a less uniform stand



Scarlet Frills sowed with Y-24 roller on top (sparser) has darker color than when sown with the X-24 roller on bottom (denser)

Sparser Density can Mean:

- Less upright
- Less disease-prone
- Grows faster
- Color is Impacted
 - Creates more understory, decreasing available sunlight and washes out some red varieties
 - More blanching can occur

Other Things to Consider

- Seasonal Factors
- Germination Rate



Rosie
Y-24 roller



Rosie
X-24 roller



Red Kingdom
Y-24 roller



Red Kingdom
X-24 roller

Jang Multi-Row Seeders

- Same gearing as the JP-1
- One roller is needed for each hopper
- Hoppers can be set 3" apart for densely planted crops
- Works well as a mini grain drill!
- Hopper assemblies can be set to various row spacings



Part #	Model	Frame Width	# Hoppers Included	Max Outside Row Spacing	Max # Hoppers for Frame Size
7607	JP-3	15"	3	12"	5
7898	JP-5	15"	5	12"	5
7608	JP-6	26"	6	22"	8

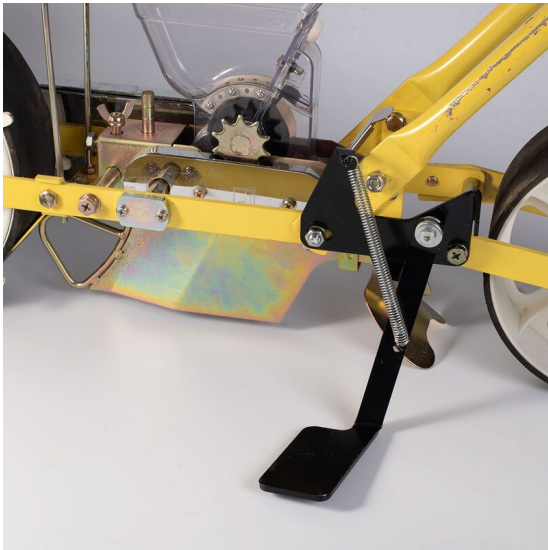


Starter Kits & Roller Packs



Jang Accessories

- Extra Hoppers
- Hopper Assemblies
- Shoes
- Kickstand
- Row Markers
- Fertilizer Assembly
- 3-Point Hitch Kits




Check out our seed roller trial results in the Grower's Library!

Full list of recommendations for:

- Vegetables
- Cut-Flowers
- Sunflowers – Over 50 varieties!
- Herbs
- Baby Leaf Crops
- Cover Crops (Farm Seed)



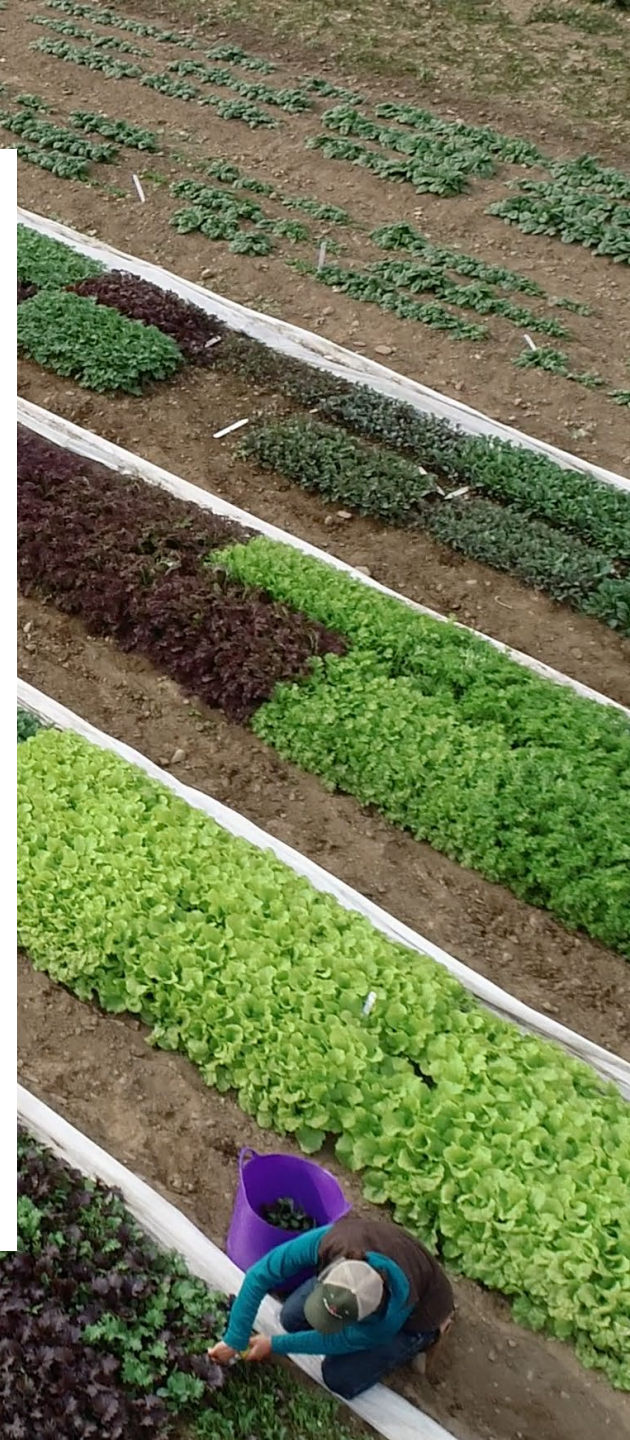
 Jang JP Seeders · Roller Trial Results SUNFLOWER Variety Cross-Reference Chart <small>Click on any Jang Roller Part # below, to view or purchase. (See separate spreadsheet for other flower crop varieties.)</small>												
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								4 – 10"	C-6	7785		

RESOURCES

- [Jang JP Series Seeders • Comparison Chart \(PDF\)](#)
- [Jang JP Series • Roller Selection Guide • 4-pp Tech Sheet \(PDF\)](#)
- [Jang JP Series • Roller Sizes & Applications • Comparison Chart \(PDF\)](#)
- [Jang Roller Testing Grid • for evaluating your own seed • PDF](#)
- [Jang JP1 Seeder • Operation Manual • 7-pp Tech Sheet \(PDF\)](#)

JANG JP SERIES ROLLER TRIAL RESULTS • SPREADSHEETS

- [Jang JP Series • Roller Trial Results | VEGETABLE Variety Cross-Reference Chart • XLSX](#)
- [Jang JP Series • Roller Trial Results | CUT-FLOWER Variety Cross-Reference Chart • XLSX](#)
- [Jang JP Series • Roller Trial Results | SUNFLOWER Variety Cross-Reference Chart • XLSX](#)
- [Jang JP Series • Roller Trial Results | FARM SEED/COVER CROP Variety Cross-Reference Chart • XLSX](#)
- [Jang JP Series • Roller Trial Results | HERB Variety Cross-Reference Chart • XLSX](#)



THANK YOU

FOR JOINING US

A recording of this webinar and the presentation slides will be available on March 28, 2023.

[Johnnyseeds.com/webinars](https://johnnyseeds.com/webinars)

