JANG ROLLER SELECTION GUIDE

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The Jang JP Series Seeders offer a wide variety of seed sowing options with the use of different sized rollers. You can choose the right Jang roller for your needs by asking three basic questions: What is the shape of the seed you are using? What size is that seed? What is your desired seed spacing?

1. SEED SHAPE



Most Jang rollers have round holes at varying widths and depths, so round and uniform seeds will be easiest to sow with the JP Series seeders. Some rollers are available with hole shapes for seeds that are irregular; the ***J*** rollers have half-moon shaped holes for long, narrow seed like cucumbers, and the ***N*** rollers have larger, scoop-shaped holes for seeding beans and corn.

Due to the precision nature of this seeder, it is important to know that some seeds just may not work in the Jang. For some customer's needs, creating a custom roller may work and we will talk about this later. For other seeds like calendula flowers, the seed is simply too irregular in size and shape to sow consistently with a precision seeder.

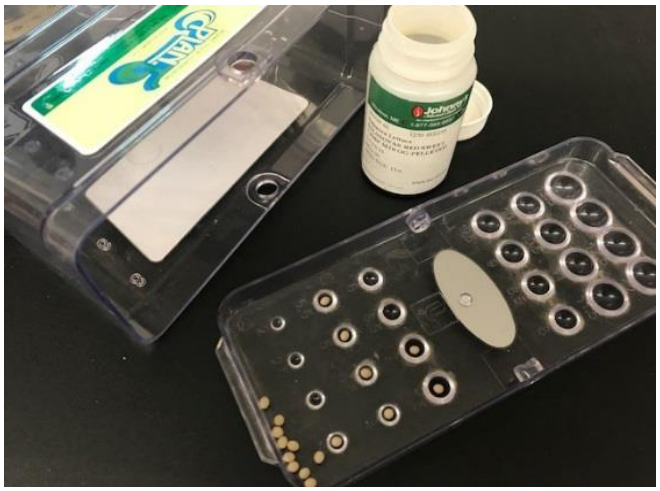


Raw and pelleted parsnip seed.

Knowing your seed shape might also influence your seed buying decisions. For example, parsnip seed (see left) is very flat and often becomes tangled in the brush of the Jang JP Series Seeders, making it difficult to sow precisely. Therefore, many growers choose to buy pelleted seed for mechanical seeding.

2. SEED SIZE

Next, you will need to determine the size of the seed being sown. The Jang JP Series Seeders are equipped with a seed size gauge on the lid of the hopper (see right). This gauge shows hole sizes (width in mm). Using the largest seed you can find of your chosen variety, test it in each size hole until you find one where the seed sits loosely inside. This exercise is helpful for approximating what roller size you will need. Next, test the seed in the roller that has the closest hole size and adjust up or down as necessary. See the chart on the next page for roller hole sizing.



Pelleted seed shown in the seed size gauge.

GROWER TIPS:

You can find roller recommendations for various seed varieties in the resource library, plus results from source trials at the research site in USDA zone 5b.

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Ideally, you will want a roller where a single seed sits in the hole below the roller surface. You will notice in the photo to the left that this pelleted onion seed rests nicely in the ***LJ*** roller on the right and sticks out beyond the surface of the ***L*** roller on the left. Choosing a roller with the correct hole size for each seed variety you will be sowing ensures that your seed will not crack or jam while the seeder is in use.



Some seed is simply too large to fit the hole on a roller. In this case, the Jang JP Series is not the right tool for the job. For instance, some bean varieties can be sown using the JP Series seeders, but others are simply too large and should be sown using the larger Jang TD models.

The chart to the right shows the hole sizes for each of the roller types. Roller type is denoted by a letter. Each type of roller is available with a different number of holes. For instance, the source supplier sells the ***X*** roller in three options (X-6, X-12, and X-24). The letter ***X*** refers to the size of the hole, and the number refers to the number of holes in each roller, which determines the spacing. We will talk about choosing a roller with the correct number of holes in the next section.

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

Note: Some roller types have the same size holes, but the depths are different. For example, an ***R*** roller and a ***G*** roller both have 9mm diameter holes, but the ***G*** roller is a little deeper.



Different sizes and shapes of pelleted seeds.

ABOUT PELLETED SEEDS

Pelleted seeds are helpful for mechanical seeding because their uniform size and shape make them less likely to become jammed in moving parts. Pelleted seed comes in a variety of sizes and densities and can be either “sized” or “unsized.” Sized pelleted seed is run through screens to be sure that each pellet is uniform for ease of sowing. The size of a pellet is indicated with a number that refers to 1/64th of an inch. For instance, size 13.0 carrot seed would be 13/64th of an inch, or .2 inches.

3. SEED SPACING

Finally, determine what roller you need to achieve your desired in-row spacing. Spacing is determined by two factors: the number of holes in the seed roller and the adjustments of the sprockets inside the chain guard.

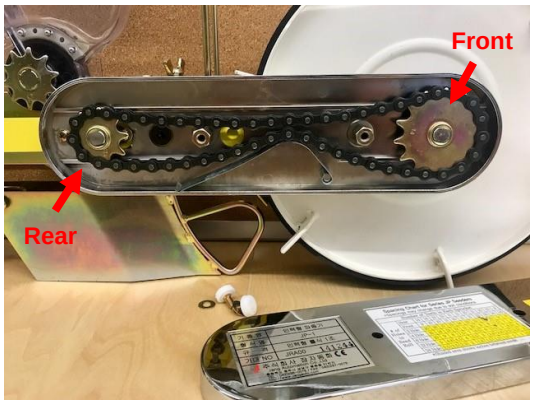
Adjusting the Sprockets

Each Jang JP Series Seeder comes with a set of 6 numbered sprockets (#9, #10, #13, #14, and two #11) to adjust your seed spacing. The number correlates with the number of teeth on each sprocket. To operate your Jang JP Series Seeder, a sprocket must be mounted onto each of the drive shafts located both at the front and the rear of the gear box with a chain connecting the two.



Assorted Jang Sprockets.

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By manipulating these sprocket combinations, you can adjust the frequency with which the seed is dispensed in relation to the rotations of the drive wheel along the ground. This works much like shifting gears on a bicycle.

The sprocket combination needed for sowing your seeds will depend on which roller you choose and your desired seed spacing.

Choosing the Number of Holes

Each Jang JP Series Seeder has a chart on the side of the chain guard (see below). This chart is used to determine the number of holes you will need on the roller to accomplish your desired spacing. You can see the top two rows in the chart show the possible sprocket combinations for achieving different spacing (indicated in blue).

Spacing Chart for Series JP & JPH Seeders

* Spacings may change due to soil conditions

		Number of Teeth in Each Sprocket										
# of Holes in Seed Roll	Rear	14	14	13	13	11	11	10	11	10	10	9
	Front	9	10	10	11	10	11	11	13	13	14	14
	3 Hole	20	18	16	15	14	12	11	11	9	9	8
	4 Hole	14	13	12	11	10	9	9	8	7	7	6
	6 Hole	10	9	8	7	7	6	5	5	5	4	4
	12 Hole	5	4	4	3	3	3	2	2	2	2	2
	24 Hole	2.5	2	2	1.5	1.5	1.5	1	1	1	1	0.5

* Shaded area shows inches between seeds

For instance, if you are planning on sowing size 11 pelleted carrot seed at a 3” spacing, and you know that an ***MJ*** roller is recommended for this size seed, you now need to decide the number of holes on the roller that will give you that spacing. Notice the only way to achieve a 3” spacing is with a 12-hole roller with the sprockets set to either #13 in the rear and #11 in the front, #11 in the rear and #10 in the front, or #11 in the rear and #11 in the front (indicated in red). You can see that the ***MJ-12*** roller will give you a spacing range of 2–5”, allowing for some flexibility in your crop spacing.

If you wanted to use the same seed but you wanted to sow one seed every 2”, you could simply switch your sprockets to one of five combination options using the same ***MJ-12*** roller (see chart below). You could also switch to a 24-hole roller. When deciding between the MJ-12 and the MJ-24 in this example, consider other seed you may need to sow. You may be able to choose a roller that provides the right spacing for two different types of seed, as long as the seed is around the same size.

Spacing Chart for Series JP & JPH Seeders

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		Number of Teeth in Each Sprocket										
# of Holes in Seed Roll	Rear	14	14	13	13	11	11	10	11	10	10	9
	Front	9	10	10	11	10	11	11	13	13	14	14
	3 Hole	20	18	16	15	14	12	11	11	9	9	8
	4 Hole	14	13	12	11	10	9	9	8	7	7	6
	6 Hole	10	9	8	7	7	6	5	5	5	4	4
	12 Hole	5	4	4	3	3	3	2	2	2	2	2
	24 Hole	2.5	2	2	1.5	1.5	1.5	1	1	1	1	0.5

* Shaded area shows inches between seeds

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Custom Rollers

Some seed sizes do not fit perfectly in the current Jang roller models, and sometimes the hole size is correct, but the configuration is not sufficient for your desired spacing. In this case, the source supplier offers a blank ***Z*** roller that can be customized to meet your specific seeding needs. Please follow the directions below for creating your custom Jang roller.

1. **Number of Holes:** Decide how many holes you want in your custom roller based on the Jang seed spacing chart (on the previous page). Mark where your holes will be drilled equidistant from one another along the circumference of the roller. Each roller circumference is approximately 7 3/8" (7.38"), so you can estimate the hole spacing by dividing the number of holes desired by 7.38.



2. **Set Up:** Once you have marked your holes on the roller, drill shallow pilot holes to get you started. It can be helpful to place your roller in a vice to keep it steady; be sure to wrap the roller in a cloth to avoid damage by the vice (see right).

3. **Hole Width:** Choose a drill bit with the correct width to fit your seed. The hole should be wide enough for the seed to sit in without it getting lodged, but not so wide that a second seed could fit inside. It is better to start with a narrower drill bit and then move up in size if needed to achieve the desired hole size.





4. **Hole Depth:** Start by drilling a shallow hole straight down into the pilot hole. Then check to see how your seed sits inside before drilling deeper. Continue this process until your seed rests at or just below the roller surface. It can be helpful to place a piece of masking tape on the drill bit as a marker (see right) so that your holes will be uniform. Note: the more aggressive the point on the drill bit is, the deeper the angle of the hole will be.



5. **Clean Up:** The drill bit can often leave behind burrs and imperfections that may cause your seeder to function poorly or the seeder brush to wear down more quickly. Clean up the newly-drilled holes with a blade and/or a fine grit sandpaper until the hole edges are smooth and flush with the roller surface (see right).

6. **Notes:** Now you are ready for seeding with your custom roller for the Jang JP Series Seeder. Be sure to take notes about the hole sizes of each roller you make and the varieties that work best in them. This reference information can be very helpful for later seedings.



GROWER TIPS: TRIALING SEEDS IN JANG ROLLERS

- Use the seed sizing gauge on the lid of the hopper to narrow down your roller choices.
- Set the brush in the hopper just above the roller, so it will not drag. Only lift the brush if it is absolutely necessary, like seeding irregular seeds that infrequently stick up out of the holes.
- Manually turn the gears on the side of the hopper to simulate how the seed will move through the hopper when in use.
- Watch to be sure there is a seed discharging from each hole in the roller. Skips and excessive seed drops may be an indication that the hole size is wrong for the seed.
- Good note-taking is essential to matching seeds and roller sizes.
- Take time to experiment with different seed and rollers. Have fun!

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