Management & Installation Guide

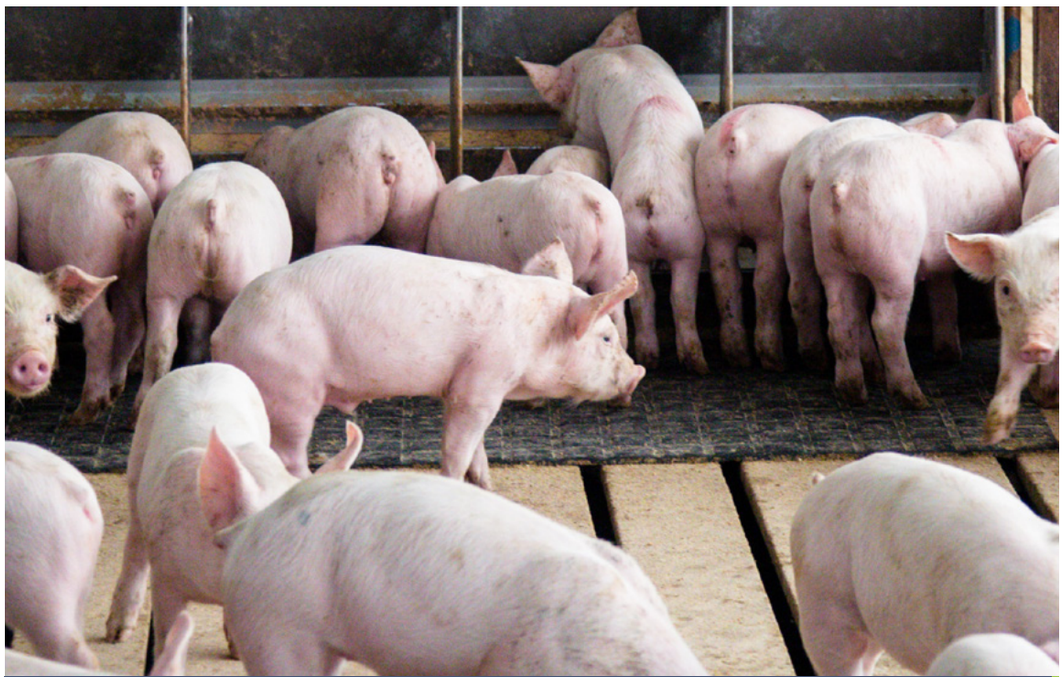
Nursery / Series N1, G6, NG

2022

CRYSTAL SPRING

HOG EQUIPMENT

FEEDER MANAGEMENT
THE FIRST 1 TO 2 DAYS



PIG PLACEMENT

Crystal Spring Nursery Feeders get optimal performance with one pig per lineal inch (2,54 cm) of feeder space. *Example: 30 pigs on a 30" feeder.*

WATER

Just prior to pig arrival, place 1-2 inches (2,5-5,0 cm) of water in the feeder pan/trough to help them rehydrate.

Add water to the feeder pan/trough three times on day 1, and twice on day 2.

Supplemental water sources (drinkers or cups; 1 per 30-50 pigs) can be used in addition to the water in the feeder pan as recommended by your vet.

FEED

FEED MATS

We recommend using feed mats in addition to feed in the feeders for the first 7-10 days. Place feed mats 3-4 feet (1-1,25 meters) from the front edge of the feeder. Place feed on mats 3-5 times daily for the first 7-10 days. Remove mats when pigs begin dunging and urinating on them.

FEED SHELF ADJUSTMENT

Based on your preferred type of feed, the following adjustment setting range is recommended:

- Mini pellets 4-7
- Standard pellets 6-10
- Mash feed* 9-18

*Mash formulas that contain high levels of energy/fat may require a wider shelf opening.

Adjust feed shelf one notch at a time. See Figure 1 for reference. Be sure feeder adjustments are placed on the same setting at both ends of the feeder.

GRUEL FEEDING IN THE FEEDER

Along with adding the water to the feeder trough as noted above, gruel feeding may be done directly in the feeder trough. To do this, agitate the feeder shelf to allow feed to flow into the trough to mix to the desired gruel consistency. This can be done at the same time you are filling the trough with water as recommended above. If necessary, this gruel method can continue during the first week until the pigs are trained to make wet feed themselves.

FEEDER MANAGEMENT
AFTER PIG PLACEMENT DAY 2+

FEED SHELF ADJUSTMENT

Adjust feed shelf settings as needed to provide 50-60% pan coverage (Figure 1). The feeder may need to be adjusted after each ration change to maintain the correct pan coverage.

Based on your preferred type of feed, the following adjustment setting range is recommended:

Mini pellets **4-7**
Standard pellets **6-10**
Mash feed* **9-18**

*Mash formulas that contain high levels of energy/fat may require a wider shelf opening

FIGURE 1

Adjust feed shelf one notch at a time until the correct pan coverage is reached (Figure 2). After each single notch adjustment, we recommend waiting 2-4 hours to see if correct pan coverage is attained. Be sure feeder adjustments are placed on the same setting at both ends of the feeder.

NOTE: It is not uncommon for the feed shelf to become gummed/clumped with damp feed due to pigs' wet snouts and/or licking, therefore, it may be necessary to clean the feed shelf every 5-7 days using a small steel rod or screw driver. Move the tool the full length of the shelf to dislodge any gummed or clumped feed. If the feed shelf require cleaning more often, verify that the water-flow noted on Table 1 on page 5 is correct. If water-flow is per recommended rate, then open the feeder one notch.

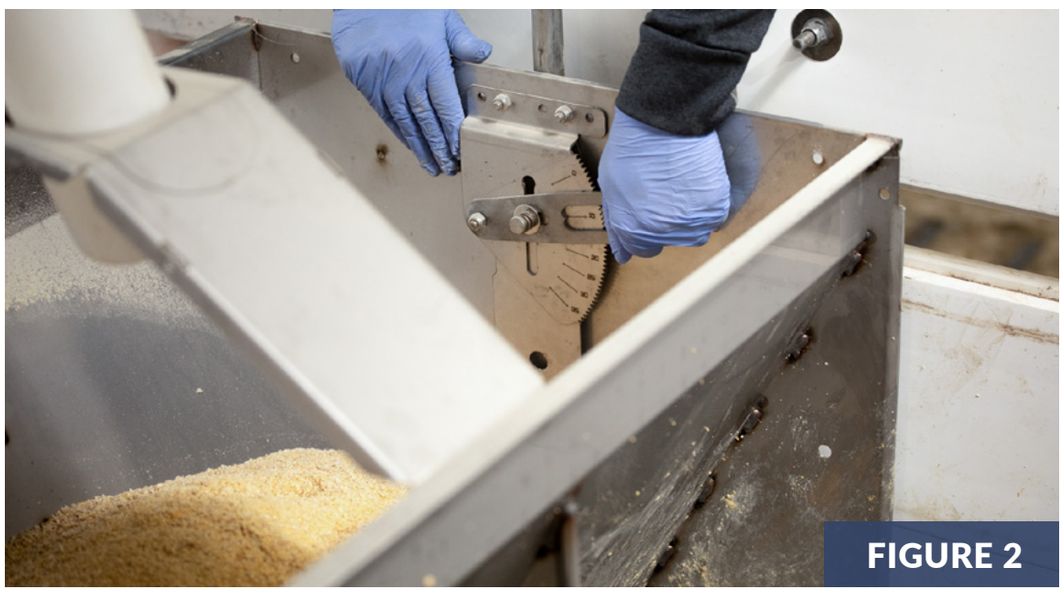


FIGURE 2

WATER

Turn on the water to the feeder nipples on day 2 or 3 depending on the size and general health of the pigs. If small pigs, less than 12lbs (5 kgs), you may have to wait until day 5-7 to turn on the feeder nipples.

Adjust the pressure regulator to maintain the water flow rates based on the pigs age and weight indicated in Table 1.

TABLE 1: RECOMMENDED WATER FLOW

	Week in Barn	Pig Age (Days)	Pig Weight (lbs)	Pig Weight (kg)	Feeder Nipple Valves	Water Flow (cup/min)	Water Flow (ml/min)
Nursery Phase	1	21-27	12	5	Off Day 1-2 On Day 3	2.0-2.5	473-592
	2	27-34	19	9	On	2.0-2.5	473-592
	3	35-41	26	12	On	2.0-2.5	473-592
	4	42-48	33	15	On	2.0-2.5	473-592
	5	49-55	45	18	On	2.5-3.0	592-710
	6	56-62	55	25	On	2.5-3.0	592-710

For best results, we recommend a regulator that can attain the equivalent pressure range of 3/4 to 8 psi (0.05 to 0.55 bar) to reach the recommended water flow rates.

Alternatively, Crystal Spring's Adaptive-Flow™ Inline Regulator with Quick Connect Valve (Mdl# H19-0041) may be attached to each feeder vertical pipe to attain the recommended water flow rates.

SUPPLEMENTAL WATER

Turn off all supplemental water for 7 days after the feeder nipples are turned on to give time for the pigs to learn to trigger the feeder nipples and make wet feed. Supplemental water should be turned on again when temperature outside the barn exceeds 85°F (29°C).

TROUBLESHOOTING

	FEEDER						FACILITIES / ENVIRONMENT					
OBSERVATION	Check/replace nipples	Adjust feed shelf	Adjust water pressure	Check water lines	Clean out stale feed	Check feed quality	Check cooling/ventilation	Provide supplemental water	Check water quality	Turn off supplemental water	Evaluate pig health	Adjust pigs per feeder space
STANDING WATER IN PAN	●		●		●	●						
STALE FEED IN PAN					●				●		●	●
DRY FEED IN PAN	●	●	●	●						●		
EXCESSIVE FEED IN PAN	●	●	●								●	
INADEQUATE FEED IN PAN		●										●
GUMMED UP FEED SHELF		●	●									
FIGHTING OR TAIL BITING	●			●			●	●				●
LAYING IN OR BY PAN	●						●					
LOITERING AT FEEDER	●			●			●	●				

INSTALLATION GUIDELINES

FEEDER PLACEMENT INSIDE THE PEN

PLASTIC SLATTED FLOORING / FULL SLATTED FLOORS - Place feeders a minimum of 6' (2 m) from the aisle and make sure feeders are level to prevent uneven pooling of water or feed. In rectangle-shaped pens, we do not recommend the feeder be placed in center of pen to keep the feeder spaces clean and free of dung/urine.

PARTIALLY SLATTED FLOORS - Place feeders a minimum of 18" (45 cm) from the slats and make sure feeders are level to prevent uneven pooling of water or feed.

SOLID-FLOORS WITH OPEN GUTTER FLUSH – Place feeders 6' (2 m) from the aisle. Feeders will require additional leveling due to the slope in the floor. For further guidance and recommendations, consult your Authorized Crystal Spring Dealer or your direct Crystal Spring Expert.

FIGURE 3

FEEDER ATTACHMENT

GATES - Attach to gate posts or pen dividers with U-channel or angle iron using knock out holes in the feeder gable ends. (See Options 2, 3, and 4 below).

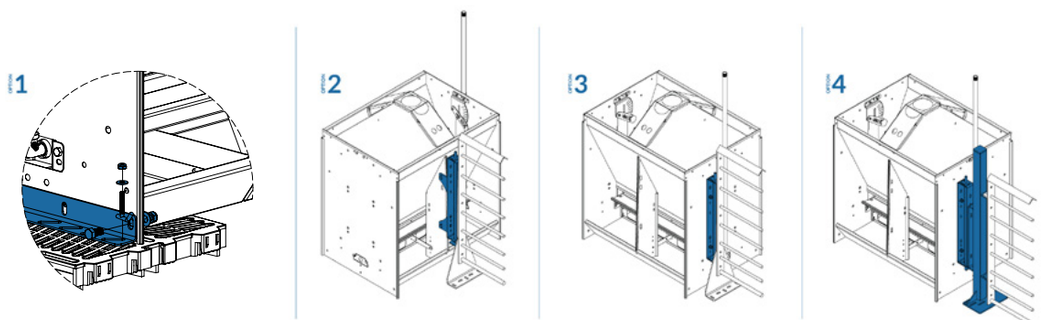
FLOOR - Attach to the floor using only Crystal Spring approved mounting brackets. For slatted plastic floors, use Crystal Spring Model# M13-1047: Nursery Feeder Mounting Kits. For solid plastic floors, use Crystal Spring Model # M13-1010, Nursery L-Bracket Mounting Kit. (See Option 1 below).

PLEASE NOTE: Never secure feeders directly to the floor through the pan. Doing so will impair the expected performance of the feeder as well as void the product warranty.

Install feeders on a level surface to prevent pooling of water or feed.

SOLID-WALL PEN DIVIDERS – Use the above listed attachment method depending on floor type - fully-slatted or solid floors. We recommend an opening in the solid-wall be 3.5" (9 cm) larger than the feeder length (Figure 3). This allows the complete feeder including vertical waterline to be placed within the opening.

FEEDER ATTACHMENT OPTIONS:



CONNECTING FEED DELIVERY SYSTEM TO FEEDER

Each Crystal Spring Feeder comes with at least one feed drop tube holder (Figure 4).

FIGURE 4

Feeders 48” (122 cm) and longer contain two drop tube holders, allowing for more even filling in the feeder hopper.

Adjust feed tube holders and/or knockouts to fit the approach angle of the feed drop tubes.

Feed drop tubes should be cut to extend at least 2” (5 cm) lower than the feed tube holder to ensure the tubes do not come out of the holder.

PRESSURE REGULATORS / FLOW-CONTROL VALVES

For pump-pressurize water systems, we recommend a regulator that can attain the equivalent pressure range of 1.5 to 13psi (0.103 to 0.90 bar) to be able to adjust to the recommended water flow rates.
*Maximum of 700 pigs per regulator.

Crystal Spring has developed a kit (Mdl #M44-0034) that includes a Methven Maxiflo 6002 regulator, pressure gauge and fittings (Figure 5) for installation in most barn layouts.

Alternatively, Crystal Spring’s Adaptive-Flow™ Inline Regulator with Quick Connect Valve - Mdl# H19-0041 (Figure 6) - may be attached to each feeder’s vertical waterline to attain the recommended water flow rates.

For “gravity” pressurized or holding-tank systems, make sure water-flow is within the recommended range, Chart 1. Depending on the height of installation of the holding-tank, it may be necessary to install a pressure regulator or Crystal Spring’s Adaptive-Flow™ Inline Regulator with Quick-Connect Valve to attain the recommended water flow range.

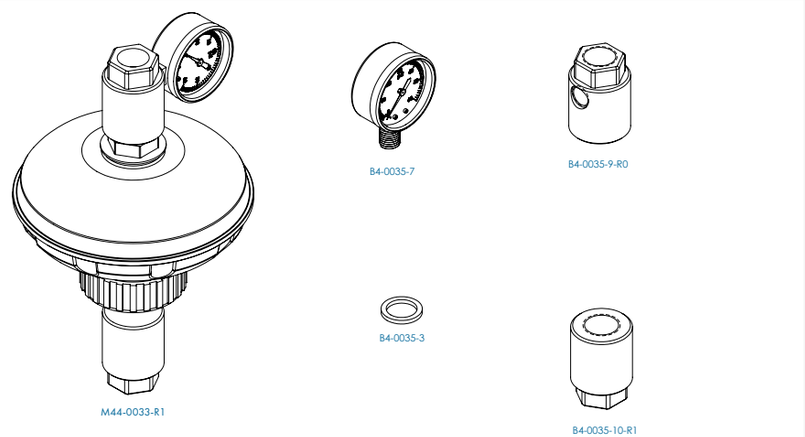


FIGURE 5

CONNECTING THE WATER SUPPLY LINE TO THE FEEDER

- Main water supply line into barn should be a minimum of 1.5”
- Main water supply should enter in the middle of the barn to ensure consistent flow throughout the barn.
- Use 1” (2.5 cm) diameter water lines in the barn.
- Flush lines to remove foreign matter.

FIGURE 6

Supply Hose Recommendations:

- Use a black or opaque flexible hose when connecting from supply line to the feeder and not a clear hose, which promotes algae growth.
- Use ½” ID (1,27 cm) hose to allow for ample water supply to the feeder.
- Avoid excess hose length that may become accessible to the pigs.

Before connecting hose to the feeder, flush lines to remove all foreign matter.

Use Teflon tape on all threaded water connections (if present) – do not use pipe compound. Use extra tape on stainless steel to stainless steel connections.

If using a Crystal Spring 2-piece waterline follow these steps:

1. Attach the 90° elbow to the horizontal waterline in the feeder after taping the threads with pipe tape as previously recommended. Do not thread elbow all the way into the waterline but only enough to make the connection snug. The threads on the elbow are tapered to allow for proper sealing.
2. Attach the vertical pipe to the elbow after taping the threads with pipe tape.

If your feeder has a one-piece or two piece waterline, use Crystal Spring’s Quick Connect Valve - Mdl# H19-0052 (Figure 7) or Crystal Spring’s Adaptive-Flow™ Inline Regulator with Quick Connect Valve - Mdl# H19-0041 (Figure 6) - to connect vertical pipe to hose/water supply line.

After connecting the water supply line and hose to the feeder, manually trigger each nipple valve to make sure there is water supplied to feeder.

FIGURE 7

THANK YOU

If you have any questions, please contact us:

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