## Five-Frame Plywood Nuc

| 96" |  |              |        |        |              |        |  |        |          |          |          |     |
|-----|--|--------------|--------|--------|--------------|--------|--|--------|----------|----------|----------|-----|
|     |  | 21 1/2"<br>B | 8 7/8" |        | 21 1/2"<br>B | 8 7/8" | 21 1/2"<br>B                             | 8 7/8" | 8 3/4"   | 8 3/4"   | 8 3/4"   |     |
|     |  | 21 1/2"<br>B | 8 7/8" |        | 21 1/2"<br>B | 8 7/8" | 21 1/2"<br>B                             | 8 7/8" | 22"<br>A | 22"<br>A | 22"<br>A |     |
|     |  | 20"          |        | 7 1/4" | 20"          | 7 1/   | ·   20"                                  | 7 1/   |          |          |          |     |
|     |  |              | -      | 4"     |              | 1/4"   |  | 1/4"   | 8 3/4"   | 8 3/4"   | 8 3/4"   | 48" |
|     |  | 28           |        | 7 1/4" | 28"          | 7 1/4" | · II 20"                                 | 7 1/4" | . 2      | . 2      | . 2      |     |
|     |  | 20"          |        | 7 1/4" | 20"          | 7 1/4" | . 11 20                                  | 7 1/4" | 22"<br>A | 22"<br>A | 22"<br>A |     |
|     |  | 29"          | 5      | 7 1/4" | 28"          | 7 1/4" | · II / / / / / / / / / / / / / / / / / / | 7 1/4" |          |          |          |     |

This layout will produce 6 medium frame nuc boxes. They hold 5 frames and each nuc box costs approximately \$9.

A: bottom B: top C: side

## Required materials:

One 4'x 8' sheet of 15/32" exterior grade plywood (Approximately \$30 with tax)

One 1"x 8" x 8' for ends, actual width is 7 1/4". (Approximately \$20 with tax)

- 1. Cut plywood parts per the above layout. Save the scrap as it will be used for top cover and end cleats.
- 2. Attach the side pieces to the bottom pieces. Glue and 18-gauge staples are recommended for all joints.
- 3. Use a router to cut a  $\frac{3}{4}$ " deep x  $\frac{3}{8}$ " wide rabbet joint into one edge of the 1 x 8. This is where the frames will sit.
- 4. Cut the 1 x 8 into pieces to fit between the sides for the ends. The frame rest rabbet joints are positioned on the inside. Be sure the total length is correct for the 19" frames. Some additional space is good.
- 5. Drill a 1" entry hole into the front piece.
- 6. Use the scrap plywood to build cleats that hold the top cover in place. The top cover is migratory style with no telescoping sides. Overlap the vertical part with the horizontal part. Attach strips to both ends for handles.

Paint the finished nuc to help prevent plywood delamination.

Adding hand hold cleats across the front and back help with lifting. Use scrap plywood or other lumber.

Use a 2 7/8" hole saw to cut a hole into the top cover so that a standard feeder jar cap can be used. Staple 1/8" hardware cloth inside the cover over the hole to keep the bees contained during transport, keep the feeder jar lid off the frames and allow ventilation during transport.

The top cover can be taped down for transport. Duct tape works well. A brick or two helps hold the top cover in place while the nuc is in the apiary. Because there is no drainage, the nuc must be tipped slightly forward to keep rainwater from running in.



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Frame rest rabbet joint



Top cover end cleat



Completed nuc ready for bees



End cleat for lifting



Frame fit example



Screen covered feeder jar hole



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Beekeeper's cost to produce five-frame medium nucs:

- Plywood nuc box per instructions \$9.00
- Purchased queen \$30.00
- Five new frames \$8.00
- Five sheets foundation -\$5.00
- Total material cost \$52.00 per nuc
- Selling price equal to BONS package \$135.00 (BONS 2023 package price)

Profit - \$83.00 per nuc

Profit from selling 6 nuc boxes - \$498.00 if queens are purchased

Profit from selling 6 nuc boxes - \$678.00 if queens are from swarm cells

This procedure allows the purchaser to keep the nuc box. If the nuc box is returned, a second batch using swarm queen cells is possible.

Notes:

