

Appendix – Feed Bunks

A. Product Description

There are many different styles of feed bunks available across America. Three distinct feed bunks styles which are available in the Midwestern United States are considered below. You will need to evaluate those styles which are popular among farmers and ranchers in your area. Each style bunk has a different application for the farmer or rancher in his feed operation. These precast concrete bunks are durable, long lasting and low maintenance. It is important to note that the local market drives the style bunk that is acceptable to the local ranchers so determining the local preference in bunks is essential.

The “J” style bunk, frequently referred to as a “Fence Line Bunk” is approximately 30 inches wide and can be 96 to 120 inches long with the height of the front access being roughly 24 inches high and a back panel which extends 6 to 8 inches higher than the front. This bunk can be placed end to end along a fence row to make one long feed trough. The extended back is placed against the fence and prevents the livestock from pushing the feed out of the back of the bunk. It can be serviced from behind the fence and therefore provides some protection for the rancher while they work, placing a solid barrier between them and the livestock. The legs are cast with the bunk for ease of handling and solid end panels are available for these bunks to close off the end sections.



The “H” style bunk, also referred to as a “Field Bunk” is approximately 30 inches wide and 96 to 120 inches long with the height of the front and back access being roughly 24 inches high. This bunk can be placed end to end away from the fence making one long feed trough that can be accessed from both sides by the livestock. The legs are cast with the bunk for ease of handling and solid end panels are available for these bunks to close off the end sections.

The “Pasture Bunk” comes in many sizes and is used for feeding in the open pasture. A small pasture bunk is approximately 28 to 30 inches wide and 96 to 120 inches long with the height being roughly 24 inches. The large pasture bunk is 36 to 40 inches wide and 96 to 120 inches long with the height being approximately 25 inches. These bunks have the ends and legs cast in place and are outfitted with drain holes.



Customer Identification:

Typical customers for feed bunks include farmers, ranchers, feed lot operators and potentially other agricultural operations. Getting your message out to these customers can be more challenging than other more centralized industries but many of the same tools can be utilized.

The key to marketing agricultural products is maintaining a high level of visibility in the agricultural community. You are marketing to local small businessmen and need to get your product in front of them at every opportunity. Since you have a limited delivery area for precast products, the marketing efforts need to be focused on local tools.

Advertising in targeted farm and cattle related publications published for your market is critical. The American Farm Bureau has local offices with publications throughout most markets and may be a good resource. Agricultural and Farming Publications like the *High Plains Journal*, *Farm Journal* and *American Small Farm Magazine* are listed on www.moocow.com along with many other regional publications. Local publications can also be identified through conversations with farmers and ranchers in your area or simply a visit to a farm supply or feed store in your market.

This same type of information can be obtained by participating in area “Farm Shows”. There are a number of local farm shows throughout the country. There are a number of resources that list shows in your region. Two websites that list a large number of shows are:

www.farmequip.org/farm_shows
www.farmshows.com

There are many associations representing different segments of the farm and ranch community which can be a source of information about local issues and activities that may be beneficial. Some of the associations are:

Your State - Farmers and Ranchers Associations
Breeders Associations - <http://www.naab-css.org/guidelines/beefbrd.html>
Cattlemen’s Associations – www.beefusa.org
Rancher Associations – www.Ranchers.net
State Livestock Association – www.nlpa.org

Your State Department of Agriculture will also have resources to help develop leads concerning the farmer and rancher community. Most sites include an agriculture and rural resource directory, links to outside resource, a list of industry associations and fairs and festival calendars. In addition, if your state has an agricultural college with extension services for farmers and ranchers they can be very beneficial resources and possess a great deal of local knowledge in their extension offices around the state.

B. Manufacturing Requirements

The following bill of materials tables utilizes 5000 psi air entrained concrete at a cost of \$100/yd³. The Direct Labor, cost of manufacturing manpower, is estimated at a \$20/hr wage including an increase to account for benefits.

Bill of Materials:

J & H Bunk

Description	Units	Quantity	Unit Cost	Extended Costs
			(\$)	(\$)
Concrete (5000 psi)	Ft 3	12	3.70	\$44.40
Rod / Rebar 1/4 inch Dia.	Lbs.	12	0.60	\$7.20
Wire Reinf#28	Lbs.	4	0.50	\$2.00
Form Oil	Gal.	0.4	7.00	\$2.80
Direct Labor	MHrs	1	20.00	\$20.00
Total Unit Cost				\$76.40

Pasture Bunk – Large

Description	Units	Quantity	Unit Cost	Extended Costs
			(\$)	(\$)
Concrete (5000 psi)	Ft 3	17	3.70	\$62.90
Rod / Rebar 1/2 inch Dia.	Lbs.	30.28	0.40	\$12.11
Rod / Rebar 3/8 inch Dia.	Lbs.	5.55	0.38	\$2.11
Plastic threaded insert	Each	2	0.28	\$0.56
Form Oil	Gal.	0.4	7.00	\$2.80
Direct Labor	MHrs	1	20.00	\$20.00
Total Unit Cost				\$100.48

Pasture Bunk – Small

Description	Units	Quantity	Unit Cost	Extended Costs
			(\$)	(\$)
Concrete (5000 psi)	Ft 3	10.8	3.70	\$39.96
Rod / Rebar 1/2 inch Dia.	Lbs.	5.92	0.40	\$2.37
Plastic threaded insert	Each	2	0.28	\$0.56
Form Oil	Gal.	0.4	7.00	\$2.80
Direct Labor	MHrs	0.75	20.00	\$15.00
Total Unit Cost				\$60.69

Plant Requirements:

The plant requirements for the addition of a new product line, like feed bunks, is a moderate amount of mixer capacity, forms, adequate production floor space and adequate finished product storage area.

The mixer capacity required to support the production will depend on the number and type of bunks you choose to add to your product line. While selecting only one of these products can be done a varied product offering for the customer tends to provide for a more robust business. While the opportunity to sell these products is year round our experience is that generally the strongest sales occur in the fall after part of the herd has been sold off.

Assuming that this same pattern exists in your market you will be faced with a decision of whether to invest heavily in forms, so that you can ramp up production just before the season begins, or maintain a consistent production model and build inventory throughout the year to prepare for the seasonal spike in sales. We have assumed the later in the preparation of this business plan. We have assumed that you will be pouring one bunk per day throughout the year which makes your spare mixer capacity requirement approximately 0.63 yd³ per day.

Forms for bunks are available from a number of sources and several are noted in a later section. The plant will need to determine what style bunk they wish to produce since every form supplier has a slightly different design. Once you have selected a bunk form it is important that any future form purchases match the bunk you have selected, so the cross section profiles match in the field.

The floor space required for any of the feed or pasture bunks is minimal but many of the Wilbert plants have very limited production floor space beyond their burial vault requirements. An area roughly 11 ft. x 12 ft. is adequate for a feed or pasture bunk. A properly rated forklift or overhead crane is used to strip the bunk from the form and to remove from the production floor. The bunks weigh from 1600 to 2100 pounds each so a 2 ton overhead crane is more than adequate to handle the product in the plant.

The delivery of the bunks is something you will also need to evaluate. For market entry, bunks can be delivered on a typical vault truck but it is suggested that other means be evaluated to increase the efficiency and to ensure adequate equipment is available for the various conditions that may be encountered at the customer locations.

Manufacturing Process:

The manufacturing process for feed and pasture bunks is more involved than some other products but still remains relatively straight forward precast production. The form is thoroughly cleaned and form release is applied to all surfaces that will come in contact with concrete.



Rebar and weld wire fabric is placed and tied, in accordance with the structural design. The sides of the form are then tilted into position and secured. The concrete is then placed in the form and consolidated by internal and external vibration to ensure it has properly molded to the form. The form may need to be topped off after consolidation to ensure that the form is completely filled. Strike off the form to ensure that it is not overfilled. The form is then released and the bunk is then lifted out of the remaining form by the overhead crane and taken to storage. (Note: It is important that the bunk have a smooth finish since excessive surface voids will allow for bacteria growth that may be harmful to the livestock.)



Employee Requirements:

There is no special employee training or knowledge associated with the production of this product.

Regulatory Requirements:

There are no national standards established for this product nor are there any known national regulatory requirements. There are regional authorities, including states, counties, municipalities and cities, which have established specifications to ensure consistency of the product they receive.

Sourcing of Consumables:

The consumables for this product are consistent with your current vault production and will not require new or unique raw material inventory to be established. The consumables for this product include form oil, and reinforcing steel.

Sourcing of Forms:

Steel forms for feed and pasture bunks are available from a number of sources. New forms can be obtained from:

Steel Forms:

Norwalk Precast Molds, Norwalk Ohio

Website: www.norwalkprecastmolds.com

Phone: 419-668-1639 or 1-800-251-8409

By email: sales@norwalkprecastmolds.com

Molds of Bethlehem, Inc., Hickory, North Carolina

Website: www.moldsofbethlehem.com

Phone: 828-495-7731 or 1-800-659-7815

By email: thru link on website

Wieser Concrete, Maiden Rock, WI 54750

Website: www.wieserconcrete.com

Phone: 715-647-2311 or 1-800-325-8456

By email: wieser_eng@dishup.us

C. Total Capital Investment

Capital Costs

Description - Forms	Units	Quantity	Unit Cost	Extended Costs
			(\$)	(\$)
J bunk	Each	1	3,000.00	3,000.00
H bunk	Each	1	3,000.00	3,000.00
Sml Pasture bunk	Each	1	3,000.00	3,000.00
Lrg Pasture bunk	Each	1	3,200.00	3,200.00
Total Cost				\$12,200.00

Advertising Costs

Description	Units	Quantity	Unit Cost (\$)	Extended Costs (\$)
Postcard Mailers	Each	100	0.35	\$35.00
Product Flyers	Each	100	0.04	\$4.00
Milled Alum. Brand Mold	Each	1	400.00	\$400.00
Reinforced Rubber	Each	4	1.00	\$4.00
Yellow Page Advertisement	Each	12	100.00	\$1,200.00
Journal Advertisement	Each	12	100.00	\$1,200.00
Website Update	Each	1	80.00	\$80.00
Total Cost				\$2,923.00

Inventory Cost

To enter the feed bunk market, as previously discussed one had to establish an inventory and form investment strategy. A minimum 30 piece inventory of both “J” & “H” bunks is advisable with an additional 20 piece inventory of both large and small pasture bunks. Utilizing the unit costs established in an earlier section your inventory cost for feed and pasture bunks is approximately \$ 11,607.

Breakeven Analysis

The following sample breakeven analysis allows you to look at the point at which you will be breaking even on this new product line. In order to perform this simple analysis we hold the profit at zero dollars (breakeven) and solve for the number of bunks sold.

Assigned Values:

Average Selling Price = \$ 160.00

Average Cost to manufacture one feed bunk = \$ 78.49

Profit = 0

Calculated Values:

Revenue = Selling Price x Feed Bunks Sold

Revenue = \$ 160.00 x Feed Bunks Sold

Fixed Cost = Capital Cost + Advertising Cost + Inventory Cost

Fixed Cost = \$ 12,200 + \$ 2,923 + \$ 11,607

Fixed Cost = \$ 26,730

Variable Cost = Cost to manufacturer one feed bunk x Feed Bunks Sold

Variable Cost = \$78.49 x Feed Bunks Sold

Profit = Revenue – Fixed Cost – Variable Cost

0 = (\$ 160.00 x Feed Bunks Sold) – \$ 26,730 – (\$78.49 x Feed Bunks Sold)

\$ 26,730 = (\$160.00 – 78.49) x Feed Bunks Sold

\$ 26,730 / \$ 81.51 = Feed Bunks Sold

327.9 = Feed Bunks Sold

This means you will have to manufacture and sell 328 Feed Bunks to break even on this new product. Since this plan is for manufacturing 1 Feed Bunk each day, it will take you 328 working days to make the feed bunks needed to breakeven.