

Blueprint for 4-6 Month Old Heifers

SPECIAL NEEDS

- Developing immune system needs lots of protein and energy.
- Developing bones and muscles need lots of protein and energy in the correct proportions to grow tall, lean heifers.
- Immature immune system needs to be stimulated safely to provide protection against viral diseases.

IMMUNE SYSTEM

- Vaccinate. If heifers have already received two modified live virus (MLV) vaccinations, then around six months is a good time to boost them. If no MLV vaccine has been used, then this is a good time to get in both the primary and secondary vaccinations for both respiratory and reproductive viruses.
- Feed enough protein. All those new white blood cells and antibodies require lots of protein above and beyond maintenance needs.
- Control coccidiosis. Eventually these heifers will establish immunity to all the strains to which they are exposed. Until

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then, include a coccidiostat in the ration for these heifers. Normally this will be adequate to suppress the growth of coccidia. Watch for clinical signs, however, when the heifers are stressed (as with extreme temperature changes, changes in housing or ration, excessively high stocking rates within pens, excessive differences in heifer size within pens, too little bunk space per heifer). Stress will suppress the immune system's effectiveness and allow coccidia growth rates to increase to clinical levels.

- Control internal parasites. Even though these are young animals, they can build up an internal parasite load. Include them in your regular spring and fall worming program especially if they have access to pasture.
- Keep adult cow manure out of their feed. These young heifers are vulnerable to a Johne's infection. Avoid the fecal:oral route of infection.

NUTRITION

- Select good quality feeds. It is hard to be polite and tell someone not to feed "heifer hay" or "heifer silage." But, for top-notch growth select only good quality feeds. Especially for this age heifers avoid coarse first cutting rained on hay, overly mature haylage and corn silage too spoiled to feed to milking cows. If leftover cow total mixed ration (TMR) is fed to heifers two guidelines need to be followed. One, avoid contaminating the weigh-back TMR with adult cow manure. Two, check this leftover feed for particle length and

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composition (feed analysis). It may need to be supplemented in order to reach the desirable composition for this age group of heifers.

- Feed a consistent ration. Either a TMR or forage supplemented with a grain mix can be satisfactory for this age group. The important goal is to feed the same ration every day. Feed conversion efficiency suffers when the rumen's microbial population has to adapt abruptly to changes in the ration. A reference from Penn State Univ. on this with sample rations may be found [HERE](#) (you may experience a slight delay on this link).
- Limit-feeding has been shown to improve feed conversion rates. However, in order to achieve this goal and get uniform growth in heifers it is necessary for the housing to provide access for all the heifers to the feed at the same time.
- Transition heifers to grass. Many heifers this age move on to grass in the spring or during the summer. If heifers go on to grass from stored feeds the grower should plan to provide a minimum of stored feeds for ten to fourteen days as the heifers move to grass while the rumen microbes adapt to a grass-based ration.

HOUSING

- Ventilate. Often this age group is housed in the basements of old bank barns. These old barns have an awful reputation for the high rate of respiratory illness treated among heifers housed

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there. Remodel to provide adequate ventilation. This will prevent a lot of illness.

- Aim for uniform growth. Genetics do play an influential role in determining growth rates. This we cannot change once the heifer is born. But, we can sort heifers into groups where they are all about the same size. In confinement housing, we can provide adequate space at the feedbunk. Further, enough space for the heifers to walk around and lie down undisturbed will help us achieve more uniform growth rates.
- Keep housing well bedded. Poorly bedded free-stall barns or pack shelters are not cost effective. Losses due to illness, treatment costs and reduced feed efficiency far outweigh expenditures to purchase, distribute and remove bedding at this heifer housing.

FOR YOUR INFORMATION

Cornell web site:

<https://ecommons.cornell.edu/handle/1813/36969>

This is the second in a series among several housing titles by Curt Gooch dealing with older heifers and remodeling existing facilities.

Penn State publication:

<https://extension.psu.edu/calf-and-heifer-housing>

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Or, try a search on Google.com using the words

dairy + heifer + housing

The last time I ran this I got over 2,180,000 hits many of the first 100 were from universities and USDA.

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