

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 6 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. Watch

for clinical signs, however, when the heifers are stressed. Examples of stress include:

1. extreme temperature changes,
2. changes in housing or ration,
3. excessively high stocking rates within pens,
4. excessive differences in heifer size within pens,
5. too little bunk space per heifer.

Stress will suppress the immune system's effectiveness and allow coccidia growth rates to increase to clinical levels. Work with your herd veterinary surgeon to identify control measures that are practical for your farm.

- 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.
- 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 good quality feeds. Especially for this age heifers avoid coarse first cutting rained on hay, overly mature haylage and maize 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.

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- Two, check this leftover feed for particle length and 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. Whether it is a TMR or forage supplemented with a concentrate mix does not matter. 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.
 - 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 to the feed for all the heifers at the same time. A full discussion of this strategy may be found at <https://extension.psu.edu/precision-feeding-dairy-heifers-strategies-and-recommendations>.
 - 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 can: (1) not plan any transition and take a hit in growth for 2 to 3 weeks, or (2) plan to provide a minimum of stored feeds for 10 to 14 days as the heifers move to grass while the rumen microbes adapt to a grass-based ration.

HOUSING

- Ventilate. This age group is often housed in old cow sheds. These sheds have an awful reputation for the high rate of

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respiratory illness treated among heifers housed 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. Pastured heifers need adequate forage to maintain a 700 to 800g/day live weight gain.
- Keep housing well bedded. Poorly bedded cubicle barns or pack sheds 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

Department of Environment, Food and Rural Affairs, see <http://www.defra.gov.uk/publications/files/pb7949-cattle-code-030407.pdf> for housing standards for dairy heifers.

Cornell web site on calf housing:

<https://ecommons.cornell.edu/handle/1813/36952>

Click on “Calf and Heifer facilities” in order to choose from among several housing titles by Curt Gooch dealing with older heifers and remodeling existing facilities.

Penn State publication:

Penn State Housing Plans for Calves and Heifers.

<http://extension.psu.edu/animals/dairy/health/facilities/calf-and-heifer-housing>

Or, try a search on Google.com using the words
dairy + heifer + housing + UK

The last time I ran this I got over one hundred hits.