



# NUTRITION NOTES

Innovation + Research from Kent Nutrition Group

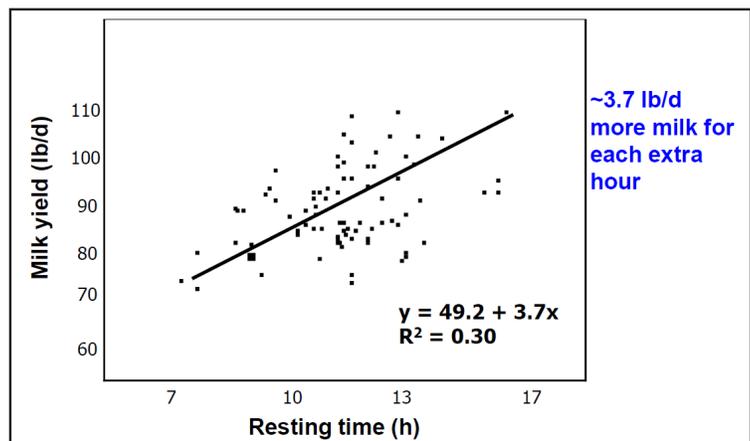
OCTOBER 10, 2016

## OVER-CROWDING OF DAIRY COWS

Unfortunately, cramped crowded conditions have become a way of life for the majority of dairy cows housed in free stall barns. In a 2010 USDA National Animal Health Monitoring Services survey of farms with cows housed in free stall barns, it was found that nearly 60% provided less than the recommended 24 inches per cow of feed bunk space. In addition, 43% provided less than one stall per cow. Since then, it has only gotten worse. Due to current milk prices, it is common to pack more cows into existing facilities in hopes of improving cash flow. True, adding cows puts more milk in the tank, but there are costs associated with feeding and caring for more animals and herd crowding probably prevents cows from producing to their potential.

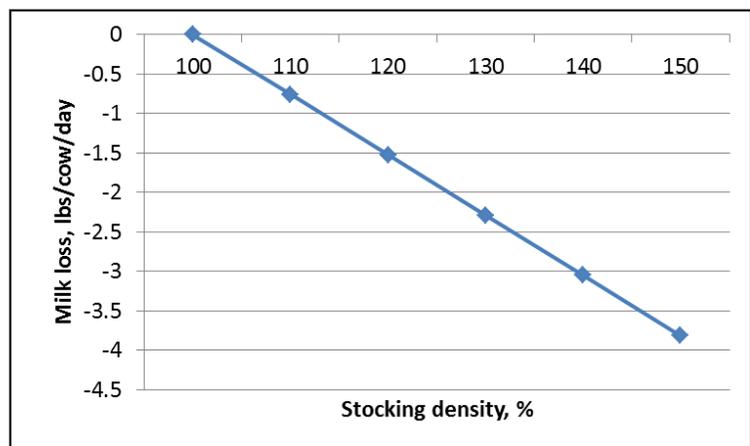
For example, a 400-cow farm in Vinton, IA that sold 15% of its cows yet lost no milk. Recognizing that the herd was over-crowded, the owner believed that no milk was lost because remaining cows “responded to an improvement in stocking density.” When crowding is reduced, cows gain easier access to feed and water. This results in increased per-cow dry matter intake, reduced slug feeding, and increased rumination time. Time spent lying down also increases with decreasing stocking rates. With improved free stall accessibility, cows are able to spend more hours resting. Studies report cows do best if able to rest for 12-14 hours a day, gaining about 3.7 pounds more milk for each hour resting (Figure 1). Also, with less time spent standing, foot and leg health improves.

Figure 1: Resting Time and Milk Yield (Grant et al., 2004)



Florida and Dutch researchers (J. Dairy Sci. 99:3848-3857) determined the stocking density of lactating groups should not exceed 120%. They modeled the effect of stocking densities between 100% and 150% on profit per stall while also taking into account the impact of feed and milk price. At stocking levels greater than 120%, not only would profit per stall decline but cow well-being becomes a concern. Krawczel et al. 2009 and Hall et al., 2009 (Figure 2) also showed a loss of milk as stocking density increased. For every 10% increase in stocking density over 100%, cows lost 0.76 pounds of milk.

Figure 2: Milk Lost With Increasing Stocking Density



continued



## NUTRITION NOTES (continued)

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To tolerate additional crowding, lactating cow comfort must be near perfect. Free stalls must be large enough and designed to allow adequate lunge space. Stalls must be properly bedded and kept clean. Floors should be properly grooved or cushioned. Air quality must be good and enough linear inches of clean water always available.

When dry cows are crowded they frequently suffer more metabolic problems after freshening. The stocking density of close-up dry cows should be about 80%. They do best with more space, more stalls than animals. It is recommended that first-calf heifers also not be crowded. Their stocking density should be kept at less than 100%, or no more than one animal per stall.