



Ergonomics of Industrialized Dairy Operations



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Introduction

1. Livestock Handling Injuries
2. Musculoskeletal Symptoms Among Dairy Farmers
3. Injury Risk Analysis of Large Herd Dairy Operations

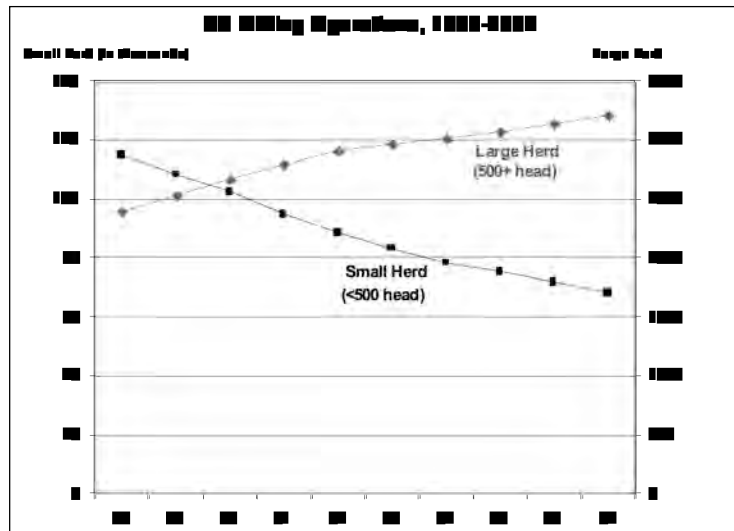
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Manufacturing Tasks



Dairy Tasks



Source: USDA, NASS

Fact: Expenses increasing

- ◆ **Management labor**
- ◆ **Hired Labor**
- ◆ **Feed**
- ◆ **Interest on loans**
- ◆ **Rent**
- ◆ **Marketing**
- ◆ **Operational expenses**

5-year trend in dairy operations

- ◆ **Lower milk prices**
- ◆ **Cash reserves drained**
- ◆ **Erosion in net worth**
- ◆ **Negative cash flows**

Challenges

- ◆ **Volatile milk prices**
- ◆ **Variable consumer demands**
- ◆ **Weather**
- ◆ **Changing technology**
- ◆ **Labor issues**
- ◆ **Herd health**
- ◆ **Production performance**

- ◆ **To make a profit owners must operate on economies of scale**



- ◆ **To make a profit owners must operate on economies of scale**
- ◆ **Herd size must increase**
- ◆ **Work tasks become more repetitive**
- ◆ **Risk of injury and illness increase**

