



WYOMING 4-H LIVESTOCK SKILL-A-THON TEAM PRACTICUM

Artificial Insemination VS Live Cover Cost Analysis Practicum (50 Points total)

Scenario: You and your team run a moderate sized cow-calf operation with 100 cows and 15 first time heifers. You are trying to determine if it will be more cost effective to purchase bulls for live cover or use artificial insemination to breed your females (leasing bulls is not an option for your operation). Using the information below answer the following questions.

Live Cover Costs		Artificial Insemination Cost	
Average purchase price of bulls	\$2,750/ head	Drug cost for Synchronization	\$15/ head
Salvage value of bulls	\$1,700/ head	Semen cost	\$25/ straw
Useful life of bulls	3 years	Technician cost	\$10/ head
Annual bull maintenance	\$650/ head	Semen tank cost	\$950/ 20 yrs
Bull to cow ratio	1:25	Liquid Nitrogen	\$30/ month

- Determine how much it will cost you for live cover per year knowing that you will own the bull for multiple years and expecting your herd size to stay the same. Be sure to include a risk of loss factor using the following formula: $0.2[(\text{Average Purchase Price of Bull} + \text{Salvage Value})/2]$. (15 points possible)**

	Per Bull	Per Year
Bulls needed is (cows + heifer) times bull to cow ratio $(100 + 15)/25 = 4.6 = 5$		(Per bull x 5)
Bull Cost is (Purchase-Salvage)/years of use $(2750-1700)/3$	\$350	\$1750
Maintenance	\$650	\$3250
Risk of loss $0.2[(\text{Avg Price of Bull} + \text{Salvage Value})/2]$ $0.2[(2750+1700)/2]$ $0.2(4450/2)$ $0.2(2225)$	\$445	\$2225
Total	\$1445	\$7225



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2. Determine the cost of AI per year for the next three years. (15 points possible)

Drug cost for Synchronization	\$15/ head	\$1725
Semen cost	\$25/ straw	\$2875
Technician cost	\$10/ head	\$1150
Semen tank cost	\$960/ 20 yrs	\$48
Liquid Nitrogen	\$30/ month	\$360
Total		\$6158

3. Based on the values found in answers 1 and 2, what is the most cost-effective route for your operation. (5 points possible)
- Artificial insemination is cheaper by 1,067
4. Verbally explain to your stakeholders which direction you would like to take your operation and why? (15 points possible)
- Feel free to be creative in your answers. You can choose not to go with the cheapest route as well, especially if you explain your reasoning!