A global survey of semen straw bar-coding practices and capabilities at bovine semen collection centers

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ICAR Artificial Insemination & Related Technologies Working Group

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Introduction

- Accurate data entry essential to integrity of all subsequent data use.

- Tracking fertility to the freeze batch level may enhance understanding of seminal components associated with male fertility.

- Freeze batch seldom recorded in most countries and accuracy/consistent of service sire ID could be improved

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Introduction

- Bar-coding of semen straws could enhance accuracy and consistency of service sire and freeze batch recording.

- Technology has been available more than a decade, but with limited application and adoption.

- Why?

Objective

- Conduct a global survey of bovine semen collection centers to assess:

  - What percentage of organizations possess straw printer capable of using bar codes.

  - What percentage are presently printing bar codes on semen straws?

  - What format and information are included in bar codes.

  - What are the primary hurdles to greater implementation to barcoding at both collection center and farm level?

Materials & Methods

- On-line survey was created.

- National Association of Animal Breeders (NAAB) and forwarded to all AI organizations with ICAR recognized stud codes.

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Results & Discussion

Continent**	No. organizations	Annual production
Europe	10	37,350,000
North America	15	111,178,000
Asia	3	5,000,000
Australia/New Zealand	3	8,850,000
Total	31	162,378,000

** Global organizations with production facilities on multiple continents were tallied by primary country/continent of production

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Does your organization presently have the capability to print bar codes and is bar coding currently implemented?

Continent	Equipment / capability for bar coding	Bar coding currently implemented
Europe (n = 10)	7	5
North America (n = 15)	9	1
Asia (n = 3)	2	2
Australia/NZ (n = 3)	2	0
Total (n = 31)	20	8

What information is presently included in bar codes?

Country	Semen collection center	Sire by registration number	Sire by NAAB code	Date format	Batch number
China- A	Yes	Yes	Yes	DDMMYY	
China-B			Yes		
France		Yes		DDMMYY	
Germany (n = 2)	Yes	Yes		YYMMDD	
Netherlands	Yes		Yes	MMDDYY	
Switzerland	Yes				Yes [1]
United States			Yes	MMDDYY	

[1] = internal coding for sire x date x processing type

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What are the primary hurdles to implementation of bar coding semen straws?

Continent	Lack of need, demand at farm level	Equipment expense	Programming
Europe (n = 10)	4	1	1
North America (n = 15)	10	7	8
Asia (n = 3)	1	2	1
Australia/NZ (n = 3)	1	1	0
Total (n = 31)	16	11	10

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Does your organization offer sex-sorted semen and how? If yes, how is it distinguished from conventional semen?

Continent	Offer sex-sorted semen?	ID by Marketing code	Alpha-numeric field	Other
Europe (n = 10)	8	0	5	3
North America (n = 15)	7	5	2	0
Asia (n = 3)	3	1	2	0
Australia/NZ (n = 3)	3	2	1	0
Total (n = 31)	21	8	10	3

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Summary and Conclusion

- Present capacity for straw bar coding exceeds implementation.

- Primary obstacle appears to be lack of need or demand at the farm level.
  - Lack of tools and programming to capture and store freeze batch data within popular on-farms record keeping system.

- Producer demand at farm level needed to drive incentives for greater implementation of bar codes in global bovine AI industry.

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