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### ► To cite this version:

Raphaël Guatteo, François Schelcher, Quentin Petit, Me-Linh Phan, Yves Millemann, et al.. Evaluation of the diagnostic reliability of a digital expert diagnostic tool VETAID for cattle disorders. 32. World Buiatrics Congress (WBC), May 2024, Cancun, Mexico. 2024. hal-04576012

**HAL Id: hal-04576012**

**<https://hal.science/hal-04576012v1>**

Submitted on 6 Jun 2024

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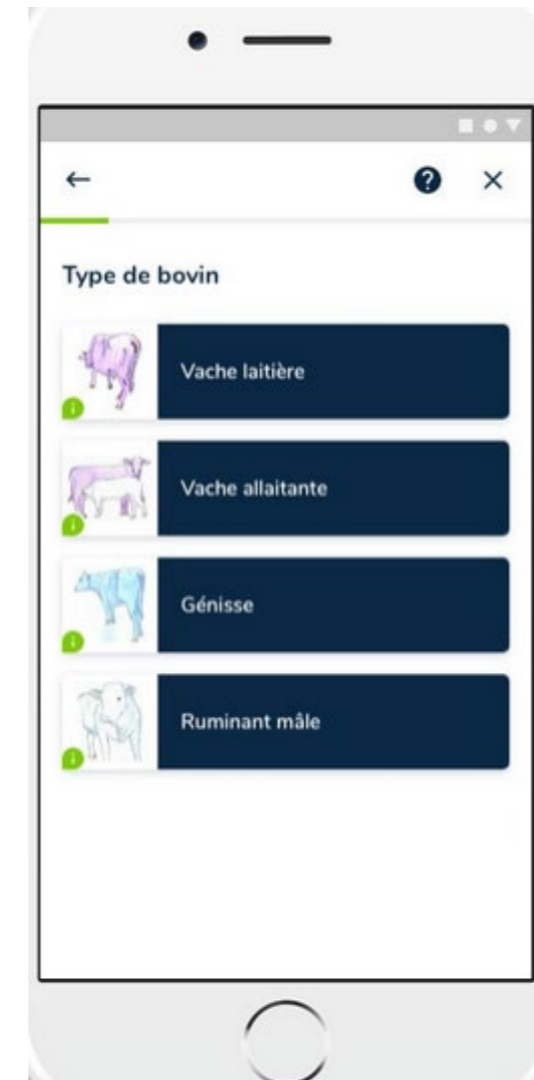
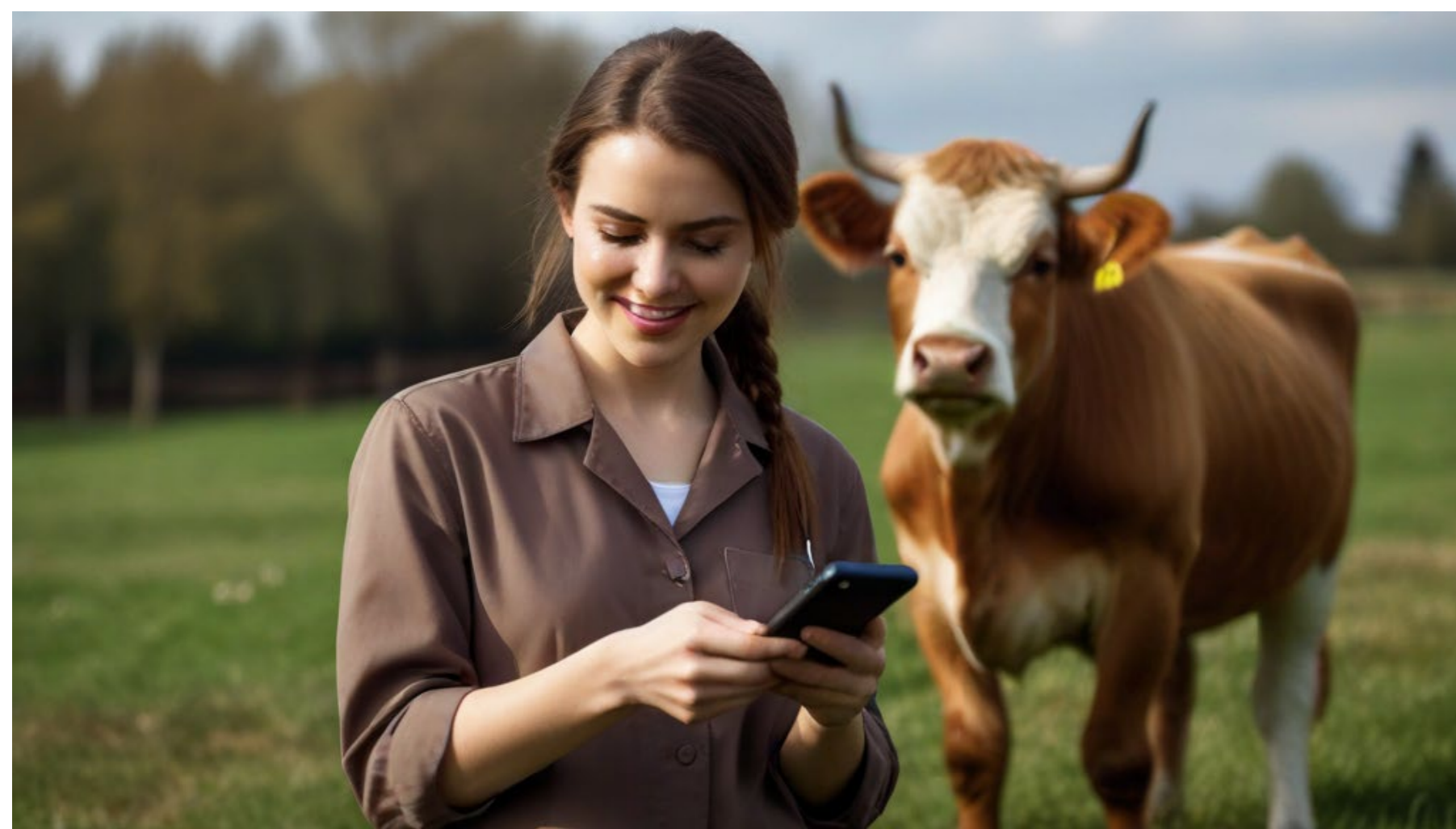
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# EVALUATION OF THE DIAGNOSTIC RELIABILITY OF A DIGITAL EXPERT DIAGNOSTIC TOOL VETAID FOR CATTLE DISORDERS

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## Need to improve confidence in clinical cases

- At the beginning of their career or when faced with atypical cases practitioners may feel the need to confirm a hypothesis
- Therefore, a reliable and expert diagnostic tool would therefore be useful
- VETAID application was created by a cattle vet with the support of specialists from the 4 French Veterinary Schools

## Our objective

To assess the reliability of VETAID in correctly diagnosing cattle diseases relative to the diagnoses made by an experienced veterinarian as the reference



## Material and Methods

Study over 6 months period (externship of 3 vet students)

Daily random recruitment of 1-2 cases: **clinical examinations and hypotheses made with their mentor**

Mentor's 1st hypothesis taken as an expert diagnosis (confident in his hypothesis or confirmed by a specific test or a successful treatment)

After using VETAID the vet students had to evaluate the hypotheses giving a score:

- **Score of 5:** The expert diagnosis is suggested in the list of diagnoses proposed by VETAID.
- **Score of 4:** At least one diagnosis suggested by VETAID is very close to the expert diagnosis, but not exact
- **Score of 3:** At least one of the diagnoses suggested by VETAID is closely related to that to the expert
- **Score 2:** At least one of the diagnoses suggested by VETAID is related to that of the expert diagnosis
- **Score 1:** No diagnostic proposal suggested by VETAID is close to the expert diagnosis

- The percentage of cases with a score of 5 was then calculated to assess the diagnostic accuracy of VETAID
- We also evaluated the rank of the suggestion of the expert diagnosis for each type of condition
- For cases without an expert diagnosis, we assessed whether VETAID's proposals were coherent

## Results & Discussion

- 143 cases were recruited
- 116 with expert diagnosis
- Lameness, Mastitis and Digestive disorders were the most frequent reasons for the call-out
- **In 84% of cases, one of the first 3 VETAID proposals equated to the expert diagnosis**
- **Mean score of accuracy: 4.63/5**
- Some conditions are too rare to allow conclusions to be drawn at this stage.
- Average time spent per case on VETAID 5-7 minutes and so, highly time efficient.
- The feedback from the users together with the results will help to improve further the VETAID application

Reason for the call-out	Total number	Cases with expert diagnosis	Mean score	Exact cases
Lameness	22	18	4.6	15/18
Downer cow	16	16	4.6	14/16
Eye disorders	6	6	5.0	6/6
Neurologic disorders	5	3	5.0	3/3
Mastitis	10	10	4.9	9/10
Vascular disorders	8	8	5.0	8/8
Skin disorders	1	1	5.0	1/1
Teat lesion	1	1	5.0	1/1
Ptyalism	3	3	4.8	2/3
Weight loss	1	1	5.0	1/1
Not specific	19	16	4.2	11/16
Post-partum disorders	3	3	4	3/3
Digestive disorders	21	14	4.9	13/14
Diarrhoea	11	6	4.5	4/6
Respiratory disorders	16	10	4	6/10
<b>TOTAL</b>	<b>143</b>	<b>116</b>	<b>4.63</b>	<b>97/116</b>

## Conclusion

VETAID seems to be a promising tool to help students and practitioners in practice, particularly among the younger generation, who are well-versed in the use of digital tools. Need further studies on a larger sample and a more diversified range of diseases