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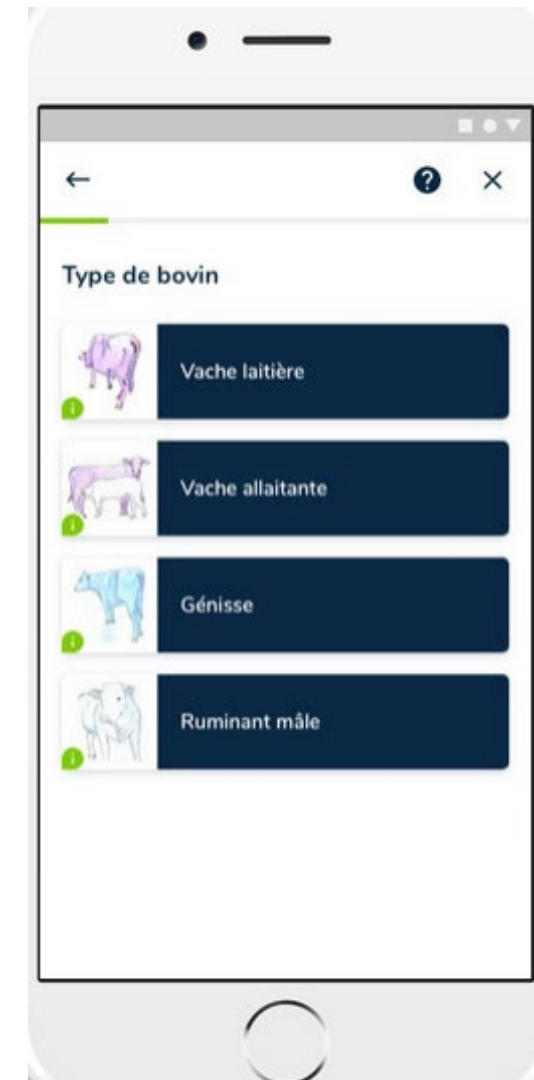
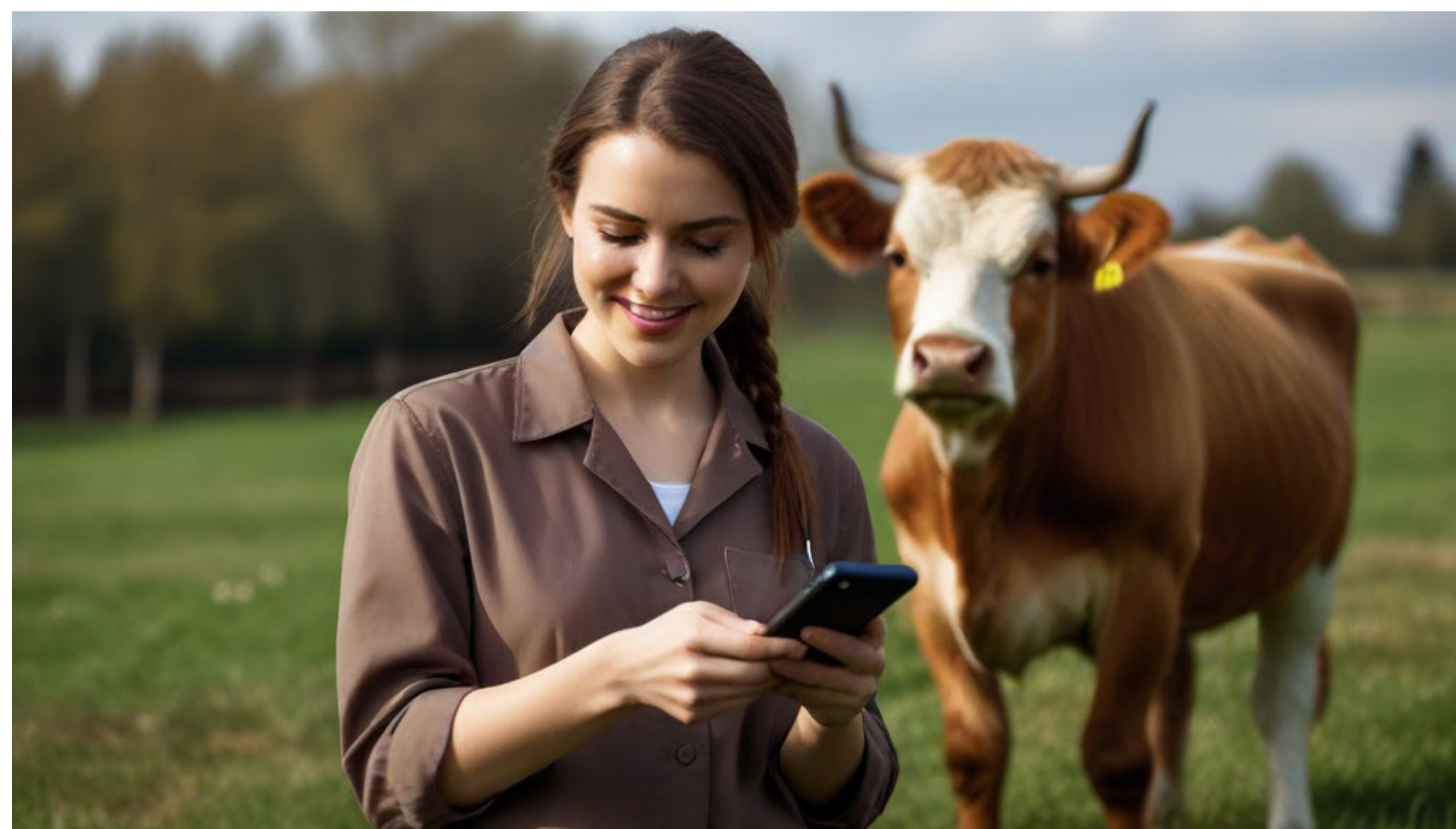
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EVALUATION OF THE DIAGNOSTIC RELIABILITY OF A DIGITAL EXPERT DIAGNOSTIC TOOL VETAID FOR CATTLE DISORDERS

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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
TOTAL	143	116	4.63	97/116

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