We are conducting a study that seeks to discover the main problems facing date palm farming in SAUDI ARABIA, particularly controlling diseases and pests. Moreover, we want to discover information needs and information‐seeking sources of date palm farmers/advisors and researchers. It is hoped that by telling us your information needs and your views regarding current services available to you, it should be possible to assess and provide you with a better service.

Please find the questionnaire which you are asked to respond to, so as to enable us to carry out the study. Please return the completed questionnaire by ) ( 2022.

The information will be accorded the highest confidentiality it deserves, and will solely be used for the purposes specified.

**Part (1) Personal data**

**Q1: Age**

**Q2: Region/City**

**Q3: What is your current education status?**

* Uneducated
* Primary
* Secondary
* Senior Secondary
* Graduate
* Post-graduate
* Doctorate

**Q4: What is your role in date palm cultivation?**

* Farmer
* Advisor
* Researcher
* Other (please specify)

**Q5: If you are a farmer, specify the area of the farm**

**Q6: How many years of experience (or interest) do you have in date palm cultivation?**

* Less than 1 year
* From 1 to 5 years
* From 5 to 10 years
* More than 10 years

**Part (2) Knowledge, Information needs and major difficulties of the respondents.**

**Q1: Is date palm cultivation in SAUDI ARABIA facing difficulties, especially diseases and pests management?**

* Yes
* No

**Q2: If your response is (Yes) please list them.**

**………………………………………………………………..**

**Q3: When detecting abnormal symptoms on the date palm, what are the diagnostic method/s usually used?**

* Rely on previous experience
* Seek experts help
* Using technology such as mobile app
* Asking for help from others such as farmers
* Other (please specify)

**Q4: What are the most important types of pests that attack date palms?**

* Weeds
* Insects
* Nematodes
* All the above

**Q5: What are the most important plant diseases that affect the date palm?**

* Fungal diseases
* Viral diseases
* Physiological diseases
* Other (please specify) ………………………………………………………

**Q6: When noticing abnormal symptoms on a specific part of the date palm, how difficult is it to determine what these symptoms indicate?**

* Very easy
* Easy
* Moderate
* Somewhat hard
* Hard
* Very Hard

**Q7: When noticing abnormal symptoms on a specific part of the date palm,** **how difficult is it to determine the causes of these symptoms?**

* Very easy
* Easy
* Moderate
* Somewhat hard
* Hard
* Very Hard

**Q8:Do you use chemical pesticides to control pests and diseases?**

* Yes
* No

**Q9: Do you have knowledge of safe use of pesticides in general?**

* Yes
* No
* Limited knowledge

**Q10:Do you have knowledge of control methods without the use of pesticides?**

* Yes
* No
* Limited knowledge

**Q11: If the answer is yes, what are these methods?**

* Cultural
* Biological (natural enemies)
* Mechanical
* Other (please specify) ………………………………………………………

**Q12: When the appropriate treatment for a specific disease is chosen, is there a need for help to know how to apply it?**

* Yes
* No

**Q13: Is it difficult to protect date palms from diseases and pests?**

* Yes
* No

**Q14: If your response is (Yes) please specify Why?**

**………………………………………………………………………………**

**Q15:** **Is it helpful to know the date palms diseases and pests chemical pesticides names and provide the product/brand names?**

* Yes
* No

**Q16: Do you agree that seeing pictures of symptoms resulting from pests and diseases that affect date palms helps identify them when they are observed on date palms in the future?**

* Strong disagree
* Disagree
* Neutral
* Agree
* Strong agree

**Q17: Which problems regarding date palm diseases and pests need the “most” help to meet information needs?**

* Diagnosis of diseases and pests
* Suggest appropriate treatment or control method
* Instructions for applying the treatment or control method
* Instructions for protection from diseases and pests
* Alert if an infection is detected in a nearby area
* Pests and diseases outbreak times
* All the above
* Other (please specify)………………………………………………………..

**Part (3) Information‐seeking sources**

**Q1: Which sources of information do you rely upon most to know more about date palm diseases and pests and how to control them for your work or project/research?**

* Website
* Other farmers
* Radio
* TV
* Newspapers
* Mobile app
* Books
* Video/film
* Government guidelines
* Workshops
* Other (please specify)………………………………………………………

**Part (4) Technology used and uptake, such as applicants’ attitude and awareness, and the availability of these technologies**

**Q1: Which tools do you use to help in pest management?**

* Paper
* Software
* Mobile App
* Email news
* Online services
* No tool used
* Other (specify)……………………………………………………………

**Q2: How often are you using the** **technologies (mobile app, web application, websites…) when you need help to protect/prevent/treat date palm diseases or pest infection?**

* Very often
* Often
* Sometimes
* Seldom
* Never

**Q3:** **If your response is NEVER for any of the above technologies, tick the most appropriate reason for not using it:**

* Do not need the service
* Do not know about the service
* Need Special skills
* Difficult to use it
* Unfeasible
* Unwilling
* Other (specify)……………………………………………………………

**Q4: How do you rate yourself in your ability to use technology to help you in your work research/project?**

* Very good
* Good
* Fair
* Bad
* Very bad

**Q5: If a technology or tool (for example, a mobile app) provides diagnoses of date palm diseases and pests and then presents you with recommendations for appropriate solutions, will you rely on it to make actual decisions?**

* Yes
* No

**Q6: If you answer the previous question (No), please specify why?**

* Because you do not trust it
* Because it appears so complex
* Because it does not satisfy your needs
* Other (specify)………………………………………….

**Q7: If you want to use technology to help you manage date palm diseases and pests, would you like to see recommendations only or recommendations with explanations for these recommendations?**

* Recommendations only
* Recommendations with explanations

**Q8: If you want to see recommendations with explanations, which type of explanations do you prefer?**

* The rules used to generate the recommendation
* The relevant parts of the guideline document
* The guideline document and references to agriculture literature
* All the above
* Other (specify)………………………………………….