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Internet Use and the Relationships to Agricultural and Extension Education As Received by Farmers In Hebei Province, China

INTRODUCTION

❖Hebei has a large population of fruit farmers, with a diversity of fruit species in a competitive market

❖Fruit farmers have higher perceptions of obtaining agricultural knowledge and information

❖Development of a network infrastructure has speed up the Internet adoption in rural region

OBJECTIVES

❖To **determine**
- Uses of Internet related devices and perceptions of Internet and its use
- Perceptions regarding the purpose related to agricultural knowledge and information and its use

❖To **evaluate**
- Opinions regarding the credibility of online agricultural knowledge and information
- The status of Internet utilization training and online course participation

❖To **identify**
- The obstacles that fruit farmers face

THEORETICAL FRAMEWORK

❖ **Constructivism theory**
- Learning occurs when people construct "new" knowledge based on "old" knowledge

❖ **Distance learning theory**
- Independence & autonomy

❖ **Andragogy theory**
- Self-directed
- Enter educational settings ready to learn
- Problem-centered in learning

METHODOLOGY

Interest & Confusion 1
- ❖Literature review
- ❖Interview agricultural extension officer, technicians and experts.
- ❖Communicate with farmers.

Purpose & Objective 2
- ❖Determine research purpose and objectives
- ❖Determine target population

Determination & Design 3
- ❖Determine research method, questions, sample size, sample drawing route map, distribute details.
- ❖Design and test questionnaire.

Distribution & Collection 4
- ❖Questionnaire distribution.
- ❖Sample size >385.
- ❖Questionnaire collection.
- ❖Manual convert to Microsoft Excel, 2013.

Analysis & Discussion 5
- ❖Data analysis using SPSS 23.0

Finding & Conclusion 6
- ❖Summarize the findings and experiences by conducting this study, as well as the believes and philosophy of researcher

RESULTS

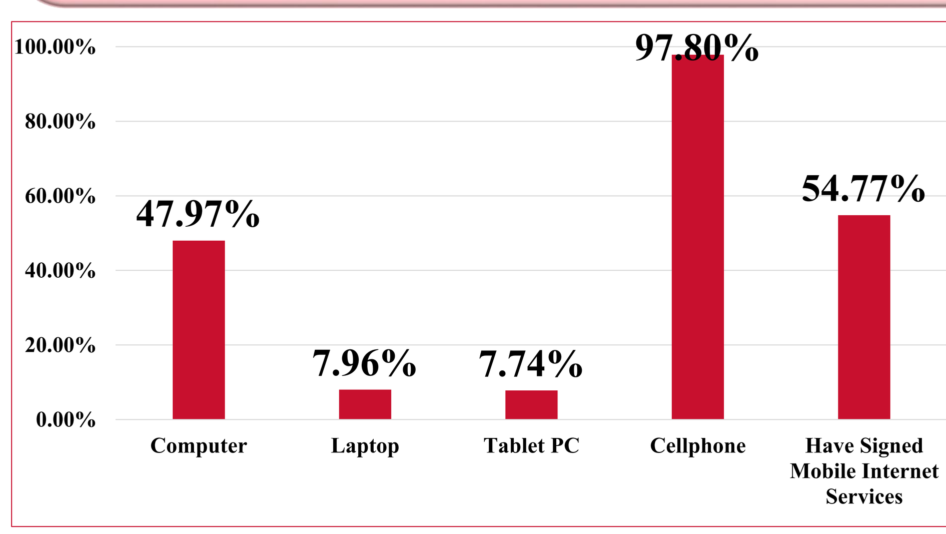


Figure 1. Internet Accessing Devices and Mobile Internet Access Services for Fruit farmers

❖The proportion of farmers that own a computer is much less than farmers that own a cellphone.

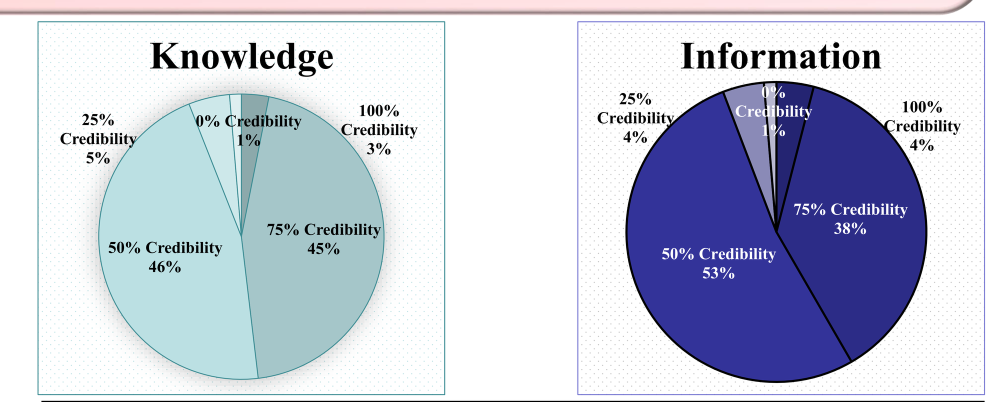
❖Nearly 98% of fruit farmers have a cellphone and half of them have a signed Mobile Internet Service.

	Landline	Mobile
#1	Contact families	Contact families
#2	Watch videos	Contact other farmers
#3	Obtain farming product info*	Watch news
#4	Watch news	Watch videos
#5	Purchase daily groceries	Obtain Ag tech & knowledge*
#6	Obtain marketing info*	Obtain farming product info*
#7	Obtain Ag tech & knowledge*	Purchase daily groceries
#8	Contact other farmers	Play games
#9	Play games	Obtain marketing info*
#10	Online education*	Leisure reading

Table 1. Comparison of Purposes for Hebei Fruit Farmers' Landline and Mobile Internet Surfing

❖Landline Internet Surfing
- Knowledge & Information obtaining

❖Mobile Internet Surfing
- Communication



	Knowledge		Information		
	M	*SD*	*M*	*SD*	*p-value*
Perceptions of Credibility	2.56	0.695	2.61	0.698	0.002

Note. * = p ≤ .05.

Figure 2. Hebei Fruit Farmers' Perceptions Regarding the Credibility of Agricultural Knowledge and Information Disseminated Online

❖Fruit farmers give 75% credibility to the agricultural knowledge and information disseminated online.

❖Fruit farmers consider agricultural knowledge found online to has a higher credibility than the agricultural information found online.

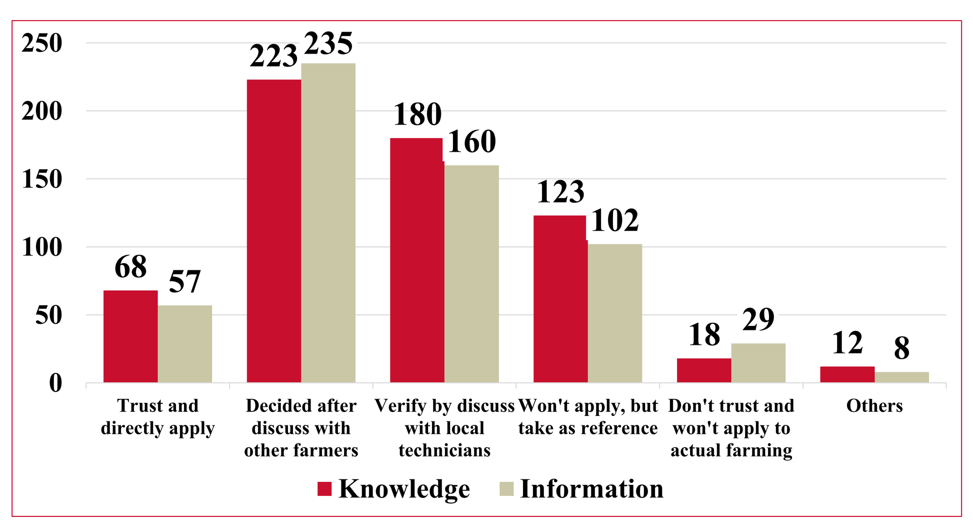


Figure 3. Fruit Farmers Reactions to the Agricultural Knowledge/Information They Obtained via the Internet

❖The highest ranked reaction fruit farmers had was "Deciding whether or not to apply the information after discussing with other farmers", followed by "Verifying by discuss with local technicians"

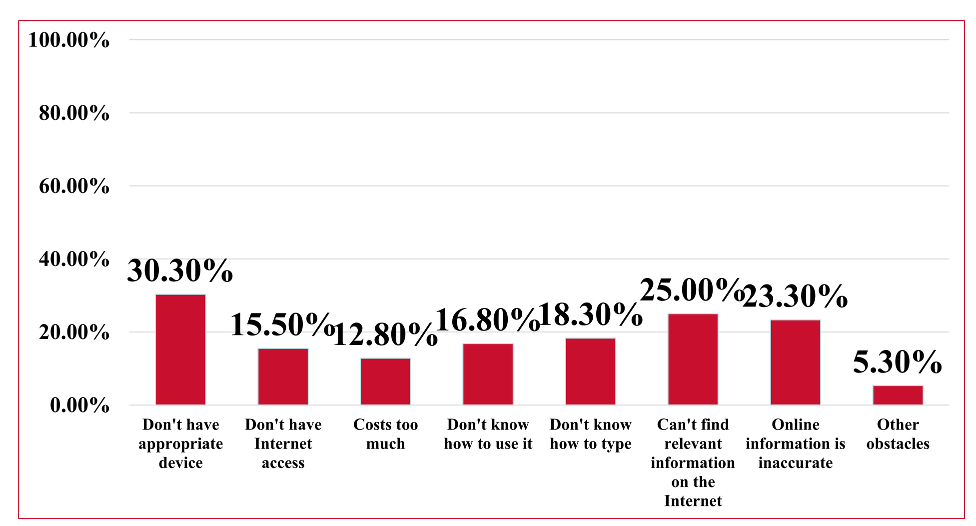


Figure 4. Obstacles Fruit Farmers Held Regarding Internet Use as Ag Knowledge and Info Obtaining Source

❖Fruit farmers rank "Don't have appropriate device" as their first obstacle.

❖1/4 of fruit farmers chose "Can't find relevant information on the Internet" as their second obstacle.

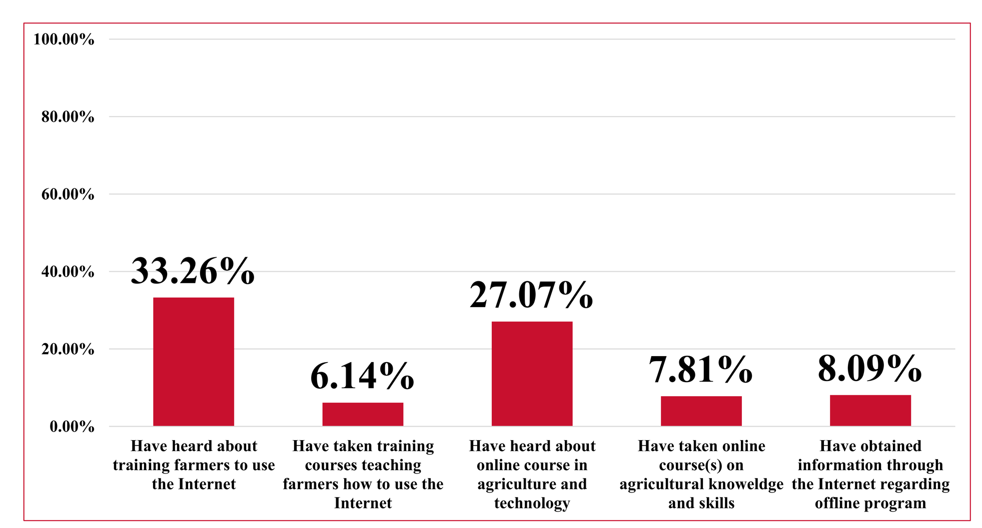


Figure 5. Fruit Farmers' Actual Status of Internet Utilization Training and Online Agricultural Education Course Participating

❖1/3 of fruit farmers had heard of farmer Internet use training programs, and online agricultural education technology courses.

❖Around 8% of fruit farmers have taken a training and online courses before.

DISCUSSION

❖**Despite high cellphone owning rate**
- The cellphones is poorly used for agricultural content adoption
- Still rely on landline Internet

❖**Landline Internet VS. mobile Internet**
- Education purpose vs. communication purpose

❖**Credibility of online content**
- Ag-knowledge > Ag-information

❖**Reaction to what was obtained online**
- Won't directly apply, but verify with others first

❖ **Lack of Internet utilization training**

CONCLUSION

❖Fruit farmers lack of Internet utilization training, especially with the mobile Internet

❖Fruit farmers considering the Internet-based agricultural knowledge/information is not fully reliable

❖Have not yet considered the cellphone as an adequate device of agricultural knowledge adoption

RECOMMENDATION

❖Provide clear and basic training of Internet usage

❖Verify the agricultural education materials online

❖Provide more authoritative sources of agricultural knowledge and information

❖Traditional agricultural extension education departments should make effort on their Internet-based construction
- Websites, APP, WeChat public number, etc.

❖Respect fruit farmers' habits and traditions of obtaining knowledge/information while encouraging and assisting fruit farmers to try new sources of agricultural extension and education

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