

# TARABA JOURNAL OF AGRICULTURAL RESEARCH (TAJAR)

## VOLUME 3, NUMBER 2, DECEMBER, 2015

### TABLE OF CONTENT

|                                                                                                                                                                                        |         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| EFFECTIVENESS OF MULTILINGUAL RADIO PROGRAMME AS A STRATEGY FOR DISSEMINATING AGRICULTURAL INFORMATION IN KWARA STATE, NIGERIA                                                         | 1-8     |
| Adebayo, S. A., Ogunlade, I., Omotesho, K. F. and Ekwemuka, J. I                                                                                                                       |         |
| ALLOCATIVE EFFICIENCY IN RAIN-FED RICE PRODUCTION IN MUBI NORTH LOCAL GOVERNMENT AREA OF ADAMAWA STATE, NIGERIA                                                                        | 9-13    |
| M.B Vimtim , *A.I Idris, A.T Umaru and**A.B Shuaibu                                                                                                                                    |         |
| EVALUATION OF CROP PRODUCTION TECHNOLOGY PROGRAMMES OF COLLEGES OF AGRICULTURE: STAKEHOLDERS' PERCEPTION                                                                               | 14-18   |
| Kesiki, William Benedict, Amuche, Chris Igomu & Highest, E.C                                                                                                                           |         |
| ASSESSMENT OF ORGANIC MANURE USAGE IN DRY SEASON GARDEN EGG( <i>Solanum melongena</i> ) AND FLUTEDPUMPKIN ( <i>Telfairia occidentalis</i> ) PRODUCTION IN UMUNNEOCHI LGA OF ABIA STATE | 19-26   |
| NIGERIAUmeh, O. J.                                                                                                                                                                     |         |
| ASSESSMENT OF AWARENESS LEVEL OF JATROPHA ( <i>Jatropha curcas</i> L)IN UMUAHIA METROPOLIS, ABIA STATE, NIGERIA                                                                        | 27-36   |
| Olowoyo, F. B. Kola-Oladiji,K.I.,,Onefeli A.O,Bolaji-Olutunji K. A.,Okelola, O. E. Olubunmi-Koyejo, A. I. and <sup>1</sup> Samson E.O.                                                 |         |
| EVALUATION OF THE IMPACT RESISTANCE OF BRAKE PADS REINFORCED WITH CRUDE, MERCERIZED, ACETYLATED AND SEMI-CARBONIZED KENAF ( <i>Hibiscus cannabinus</i> ) FIBRES                        | 37-45   |
| Namesan, N.O., S.A Iya and B. Aliyu.                                                                                                                                                   |         |
| MEASUREMENTS AND CALCULATIONS OF BASIC KENAF ( <i>Hibiscus cannabinus</i> ) FIBRE DIMENSIONS GROWN IN YOLA NIGERIAFOR USE AS BASE FRICTION MATERIAL FOR BRAKE PAD                      | 46-52   |
| PRODUCTION Namesan, N.O.,J.N Maduako, S.A Iya and B. Aliyu.,                                                                                                                           |         |
| COMPARATIVE ASSESSMENT OF THE WEAR BEHAVIOR OF KENAF ( <i>Hibiscus cannabinus</i> ) AND MINERAL FIBRE REINFORCED BRAKE PAD COMPOSITES                                                  | 53-57   |
| Namesan, N.O., S.A Iya and B. Aliyu.,                                                                                                                                                  |         |
| THE EFFECT OF ACETYLATION, MERCERIZATION AND SEMI-CARBONIZATION TREATMENTS ON THE TENSILE STRENGTH OF KENAF ( <i>Hibiscus cannabinus</i> ) FIBER                                       | 58-61   |
| Namesan, N.O., S.A Iya and B. Aliyu                                                                                                                                                    |         |
| INFLUENCE OF HIVE TYPE ON THE YIELD OF HONEY IN MAYO-BUTALE GAME RESERVE TOUNGOLOCAL GOVERNMENT AREA, ADAMAWA STATE, NIGERIA                                                           | 62-73   |
| Kwaga, B.T.Akosim, C.,Shitta, E. A. and Buba, U.                                                                                                                                       |         |
| EFFECTS OF LEGUMINOUS AND NON-LEGUMINOUS COVER CROPS ON SOIL QUALITY AND MAIZE PERFORMANCE AT JALINGO, TARABA STATE, NIGERIA                                                           | 74-85   |
| Michael G. C, S.O. Dania and N. Voncir                                                                                                                                                 |         |
| EFFECT OF TILLAGE METHODS ON WEED MANAGEMENT IN MAIZE PRODUCTION AT JALINGO, TARABA STATE                                                                                              | 86-93   |
| Michael G. Chukudi                                                                                                                                                                     |         |
| EFFECT OF HEAT STRESS ON BROILERS AND LAYERS: THE MECHANISM TO COMBAT THIS MENACE                                                                                                      | 94-99   |
| Antyev, M., A.A. Liman, A. Ayuba P. Shadrach, I. Baya, C. Wachap, E. Finlak, O.A. Bello, B. Musa, A.M. Abdulrahman, F. Adamu, A.I. Foku, D.J. Francis and D. Adams                     |         |
| EFFECT OF SEASON ON THE BLOOD CHARACTERISTICS OF WEST AFRICAN DWARF (WAD) GOATS IN JALINGO NORTHEAST, NIGERIA                                                                          | 100-105 |
| Antyev, M., Aliyara,Y. H.,Shedrack, P., Abdulrahman, A.M., Bello, O.A., Yusuf, M., Ayuba A., Musa, B. and Umar, Y.A.                                                                   |         |
| EFFECT OF THREE DIFFERENT SOURCES OF LIVE FOOD ON THE GROWTH PERFORMANCE AND SURVIVAL OF <i>Clarias gariepinus</i> HATCHLINGS                                                          | 106-110 |
| Onyia, L.U., Aliu, M. and Ochokwu, I.J.                                                                                                                                                |         |
| PERFORMANCE OF BROILER STARTER CHICKENS FED FERMENTED AFRICAN LOCUST BEAN ( <i>Parkia biglobosa</i> ) MEAL AS A REPLACEMENT FOR FULL FAT SOYA BEAN MEAL                                | 111-115 |
| Danladi, Y. Mbahi T.F, Yakubu .B and J.A Oluseyi                                                                                                                                       |         |
| BLOOD CHARACTERISTICS OF BROILER CHICKENS FED DIETARY LEVELS OF FERMENTED AFRICAN LOCUST BEAN MEAL BASED DIET                                                                          | 116-121 |
| Danladi, Y., Ubua, J. Mbahi, T. F., Yakubu, B. and <sup>3</sup> J.A Oluseyi                                                                                                            |         |
| EFFECT OF MORINGA SUPPLEMENTED COWPEA HUSK MEAL ON HAEMATOLOGICAL AND SERUM BIOCHEMICAL INDICES OF RED SOKOTO GOATS IN JALINGO, TARABA STATE                                           | 122-127 |
| Mafindi, U.M., Kibon, A.U., Yahya, B. and Zaklag, D.U.                                                                                                                                 |         |
| COMPARATIVE STUDY OF THE EFFECTS OF WHOLE MILK AND SOYMILK EXTENDERS ON SEMEN QUALITY AND PERIOD OF STORAGE                                                                            | 128-137 |
| Okukpe K. M., Adeloye A. A. and Soladoye A. O.                                                                                                                                         |         |
| EFFECT OF RICE HUSK (RH) ON NUTRIENT UTILIZATION AND PERFORMANCE OF COCKEREL CHICKS                                                                                                    | 138-144 |
| Sokosun S.E. and Ehebha E.T.E.                                                                                                                                                         |         |
| COMPARISON OF BACTERIA COUNTS IN "KINDIRMO" SOURCED WITHIN MINNA METROPOLIS, NIGER STATE, NIGERIA                                                                                      | 145-148 |
| Adama, J.Y., M.J. Ibrahim and A.E. Mark                                                                                                                                                |         |
| AUTHORS' GUIDE                                                                                                                                                                         | 149     |

## EFFECTIVENESS OF MULTILINGUAL RADIO PROGRAMME AS A STRATEGY FOR DISSEMINATING AGRICULTURAL INFORMATION IN KWARA STATE, NIGERIA

Adebayo, S. A., Ogunlade, I., Omotesho, K. F. and Ekwemuka, J. I

Department of Agricultural Extension and Rural Development, University of Ilorin, Kwara State, Nigeria  
Corresponding author: [sijuadeadebayo@yahoo.com](mailto:sijuadeadebayo@yahoo.com)

Received 28<sup>th</sup> May, 2015 Accepted 25<sup>th</sup> November, 2015

### Abstract

This study investigates effectiveness of multilingual radio programme as a strategy for disseminating agricultural information in Kwara State, Nigeria. Purposive sampling technique was used in selecting farmers listening to multilingual radio programme. Interview schedule was used to elicit information from 132 respondents. Farmers' knowledge about radio programme was tested as follows: whether farmers listen to radio programme or not, type of radio programme- Agbeloba, Enunuchi and Tebo, time of radio programme and constraints farmers faced with listening to agricultural radio programme. Data was analysed using percentages and correlation. The result showed that majority of the respondents were male (60.6%), married (87.9%) and of middle age range (31-50 years) group (80.2%). Majority of the farmers did not have adequate knowledge about the radio programme (82.6%) and the time of the programme (94.7%). About 57.6% of the farmers listen to radio because of News while 51.5% of the farmers listen to radio because of agricultural programme. The farmers that listen to radio programme agbeloba put the knowledge acquired through the programme into practice such as types of potatoes (70.5%), planting on ridges (90.9%) and harvest (97.8%). However, some farmers that listened to radio programme Tebo adopted the knowledge acquired from the programme such as TMS30572 (59.5%), TMS 1425 (42.1%) while many have discontinued adopting the knowledge. The result of the analysis of variance across the three different ethnic groups in Kwara State showed that there is no significant difference in the effect of multilingual radio programme across the three ethnic groups. Therefore, government should employ more experts in the field of agriculture to disseminate the needed information to the farmers.

**Keywords:** Multilingual, radio programme, Agricultural information, Ethnic groups, Farmers.

### Introduction

The dissemination of agricultural information is very crucial to agricultural production because it enables farmers to learn innovations which can improve their productivity. Farmers use a wide range of channels for receiving agricultural information; while mass media and face-to-face channels are very important, online methods are increasingly gaining acceptance (Tucker and Napier, 2002). Available information and the sources of such information have been one of the critical factors affecting adoption rates of innovations among farmers (IFOAM, 2003).

In Nigeria, various communication media are being used to transmit agricultural information to farmers in line with national policy on agriculture. The communication media include farm magazine, leaflets,

newspapers, pamphlets, radio and television among others (Dare, 1990). Among them radio is the most preferred tool of mass communication in Nigeria (Ekumankama, 2000). Radio is a powerful communication tool (Chapman *et al.*, 2003) that has also proved to be the most effective media in promoting agriculture and development in rural areas (Nakabugu, 2001). The reason for the use of radio as source of information may be because of the capability to draw the attention of its diverse audience to new ideas, techniques and latest information requiring urgent attention and wide coverage. Agricultural programmes are ran on the radio using both English and native languages so that farmers can get the best information they need. Radios are available in the urban and rural centres and they are equally available in different sizes that can be affordable to farmers. Farmers that do not have access to electric power supply

can still use the battery-operated transistor radios.

Therefore, the advantages make the radio a powerful source of information among the farmers. Nwachukwu (2010) and Agwuet *al.* (2008) noted that the radio farmer agricultural programme enhanced the extent of adoption of organic agricultural technologies. Furthermore, Olaleye *et al.* (2009) in their findings on the effectiveness of radio in the dissemination of agricultural information showed that radio is a useful source of agricultural information but it needs improvement in the areas of service delivery with a view of overcoming language barrier, poor presentation of key points and improper interpretation of scientific terms / units of measurements. The dissemination of information to farmers in the rural communities of Kwara state is done in three different languages which include Yoruba, Batunu and Nupe. The popular agricultural programmes that are being aired in radio Kwara are "AGBE LOBA", "TEBO" and "ENUNUCHI" in Yoruba, Batunu and Nupe languages respectively. The specific objectives of this paper are to

- (i) Examine listenership by farmers.
- (ii) Determine farmers listening pattern.
- (iii) Determine the extent of use of the knowledge acquired
- (iv) Identify problems the farmers face with the agricultural radio programmes

### Hypotheses

H<sub>1</sub>: There is no significant relationship between the selected socio- economic characteristics and the effect of agricultural radio programme on technology usage.

H<sub>2</sub>: There is no significant difference in the effect of farm radio programmes across the three ethnic groups in kwara state.

### Methodology

#### Study area

The study was carried out in Kwara state Nigeria. The state has two main climatic seasons; the dry and wet season. The natural vegetation comprises of wooded and rainforest savanna, with annual rainfall ranging between 1000 to 1500mm while the average temperature lies between 30°C and 35°C. Over 90 per cent of the rural populace is involved in farming. Agriculture is the mainstay of the economy in Kwara State. Varieties of cash and

food crops produced include cereals, tubers, cocoa, kola-nut and livestock. The state has a land area of 36, 825sq kilometer, with the population of 2.37 million which made up of four main ethnic groups namely: Yoruba, Nupe, Fulani and Baruba (NPC, 2006). Agriculture is the main source of the economy and the principal cash crops are cotton, cocoa, coffee, Kola nut, Tobacco and palm produce. Lime stone, feldspar, clay, kaolin and granite rocks are the main mineral resources available in the state. Some of the important tourist attraction in Kwara state includes: Esie museum, Owu-falls, Imoleboja rock shelter, Ogunjokoro and Agbona-Hill. Presently, the state comprises of 16 local governments and Ilorin is the capital which is also the principal study area. The University of Ilorin (1975) and Kwara State Polytechnic (1972) are situated in Ilorin.

### Population and sampling procedure

The population of the study are farmers in rural communities of kwara state, Nigeria. The sampling technique involves selection of three local government areas in Kwara state, Nigeria which are Baruteen, Patigi and Offa L.G.A. The choice of these local government areas was based on the dominance of agricultural practice and language used in the dissemination of the programme. Simple random sampling method was used to select forty-five respondents each from Baruteen and Patigi L.G.A while forty-two respondents were selected from Offa L.G.A to give a total sample size of one hundred and thirty-two respondents for the study.

For the purpose of this research, effectiveness of multilingual farm radio programme on technology usage by farmers was based on the premise that farmers obtain agricultural information through radio programme using their local languages.

### Data collection

Interview schedule was used to elicit information from the respondents using a structured questionnaire. The respondents' knowledge on radio program was tested, radio listening patterned was measured, constraints the farmers faced with listening to agricultural radio programmes were identified and the extent of use of the knowledge acquired through the radio programme was determined.

### Data analysis

Measurement of knowledge farm radio programme: Based on the content analysis of the threefarm radio programmes broadcast during the study period, a knowledge test consisting of 19, 6 and 13 items were constructed and content validated for the three programmes respectively.

Radio listening pattern: This was measured by asking the respondent some questions on ownership of functional radio, Access to listening to radio, media used for information seeking, Appropriate time to listen and also the frequency of radio listenership. Constraints the farmers faced with listening to Agricultural radio programmes: This was measured by asking farmers to put a tick against the severity of problems such as cost of radio, cost of electricity, the maintenance , and language barrier to radio listenership.

The extent of use of thee knowledge acquired through the radio programme: This was measure based on the various topics that were disseminated through the agriculture radio programmes. Their positions on the continuum of awareness to adoption were measured.

Data was analysed using percentages and correlation.

Results and Discussion  
Socio- economic characteristics of the respondents

Table 1 shows the socio-economic characteristics of the respondents.Majority of the respondents were male (60.6%).This result agrees with findings of Nwankoet al.(2009) that showed that male gender still dominated farming activities in Nigeria. Majority of the respondents belong to middle age group of 31-50 years (80.2%), married (87.9%), practice Muslim religion (72.4%), have small farm holdings (94.6%) and household size (76.4%). A number of authors reported that majority of sub-Sahara population living in rural areas can be considered as smallholders mainly because of their limited resource endowments relative to other farmers in the same sector (Dixon, et al.,2004).About 55.7% of the farmers have spent more than 10 years in farming business. This implies that most of the farmers have knowledge about farming.

Table 1: Personal characteristics of the respondents

| Characteristics                    | Frequencies | Percentage |
|------------------------------------|-------------|------------|
| <b>Sex</b>                         |             |            |
| Male                               | 80          | 60.6       |
| Female                             | 52          | 39.4       |
| Total                              | 132         | 100.0      |
| <b>Age ( years)</b>                |             |            |
| Young( < 30)                       | 19          | 14.4       |
| Middle (31-50)                     | 106         | 80.3       |
| Old (> 51)                         | 7           | 5.4        |
| Total                              | 132         | 100.0      |
| <b>Marital status</b>              |             |            |
| Single                             | 2           | 1.5        |
| Married                            | 116         | 87.9       |
| Widowed                            | 13          | 9.8        |
| Seperated                          | 1           | 0.8        |
| Total                              | 132         | 100.0      |
| <b>Household size</b>              |             |            |
| Small 2-5                          | 100         | 76.4       |
| Medium 5-7                         | 28          | 21.3       |
| Large >7                           | 3           | 2.3        |
| Total                              | 132         | 100.0      |
| <b>Educational level attained</b>  |             |            |
| Non formal                         | 21          | 15.9       |
| Primary                            | 65          | 49.2       |
| Secondary                          | 23          | 17.4       |
| Tertiary                           | 22          | 16.7       |
| Degree/ Master/ PhD                | 1           | 0.8        |
| Total                              | 132         | 100.0      |
| <b>Religion</b>                    |             |            |
| Christian                          | 30          | 27.6       |
| Islam                              | 97          | 72.4       |
| Total                              | 127         | 100.0      |
| <b>Farm size in hectares</b>       |             |            |
| Small 1-15                         | 125         | 94.6       |
| Large >15                          | 7           | 5.4        |
| Total                              | 132         | 100.0      |
| <b>Years of farming experience</b> |             |            |

|       |     |       |
|-------|-----|-------|
| 0-12  | 73  | 55.7  |
| 13-24 | 41  | 31.4  |
| >24   | 17  | 12.9  |
| Total | 131 | 100.0 |

Source: Field survey: June 2013

### Farmers' knowledge about the radio programme

Table 2 shows that quite a number of the farmers did not have the knowledge of agricultural programmes that have been disseminated by the radio station. Majority of the farmers (82.6%) have low knowledge about the programme and do not have a comprehensive knowledge about the time of the program, the day the program holds and the name of the

program (94.6%). Olaleye *et al.* (2009) in their findings on the effectiveness of radio in the dissemination of agricultural information showed that radio is a useful source of agricultural information but it needs improvement in the areas of service delivery with a view to overcoming language barrier, poor presentation of key points and improper interpretation of scientific terms / units of measurements.

**Table 2: Distribution of respondents by knowledge on the radio programme**

| Scores                                    | Frequencies | Percentage |
|-------------------------------------------|-------------|------------|
| <b>Knowledge Scores</b>                   |             |            |
| Low (0-3)                                 | 109         | 82.6       |
| Moderate (4-7)                            | 14          | 10.6       |
| High (>8)                                 | 9           | 6.8        |
| Total                                     | 132         | 100.0      |
| <b>Other agricultural radio programme</b> |             |            |
| None                                      | 65          | 49.2       |
| Agbeloba                                  | 27          | 20.5       |
| Enunuchi                                  | 8           | 6.1        |
| Others                                    | 32          | 24.2       |
| Total                                     | 132         | 100.0      |
| <b>Listening to farm radio programme</b>  |             |            |
| No                                        | 57          | 43.2       |
| Yes                                       | 75          | 56.8       |
| Total                                     | 132         | 100.0      |
| <b>Knowledge of Programme time</b>        |             |            |
| Low (0-3)                                 | 125         | 94.7       |
| Average (4-7)                             | 6           | 4.5        |
| High (>8)                                 | 1           | 0.8        |
| Total                                     | 132         | 100.0      |

Source: Field survey: June 2013

### Farm radio listenership to agricultural programmes

Table 3 shows result on the listenership variable on farm radio programme. Majority of the respondents own a personal functioning radio (62.1%) access to radio (76.8%), and listen to radio programme (87.2%). However, about 57.6% of the farmers listen to radio because of news while those that listen to Agricultural programme was 51.5% and 6.1% for music and 4.6% of the farmers listen for other reasons. On the frequency of listenership, about 42.4% of the farmers listen to Agricultural programmes occasionally. The time most preferred by the farmers to listen to agricultural programme is from 6pm to

midnight (67.4%). 34.1% of the farmers like to spend 5 -20 minutes to listen, while 25.8% of the farmers prefer 21- 40minutes, 23.5% of the farmers prefer 41-60 minutes, and 16.7% of the farmers prefer more than one hour to listen. The majority of the farmers listened to agricultural programmes in the evening hours of the day; this might be due to the fact that almost all the farmers were engaged with either farm or domestic activities in the morning hours of the day. This statement is in accordance with Yahaya (2001) that farmers own functional radio sets and prefer listening to agricultural programs at the morning and night hours of the day.

Table 3: Distribution of respondents by the pattern of listenership to farm radio programme

| Variables                                  | Frequencies | Percentage |
|--------------------------------------------|-------------|------------|
| <b>Owned Functional Radio</b>              |             |            |
| Yes                                        | 82          | 62.1       |
| No                                         | 50          | 37.9       |
| <b>Total</b>                               | 132         | 100.0      |
| <b>Access to listening to radio</b>        |             |            |
| Yes                                        | 86          | 76.8       |
| No                                         | 44          | 23.2       |
| <b>Total</b>                               | 132         | 100.0      |
| <b>Media used for information seeking.</b> |             |            |
| Radio                                      | 76          | 87.2       |
| Newspaper                                  | 13          | 9.8        |
| Television                                 | 54          | 40.9       |
| None                                       | 11          | 8.4        |
| <b>Reason for media listenership</b>       |             |            |
| Agricultural programme                     | 68          | 51.5       |
| News                                       | 76          | 57.6       |
| Music                                      | 8           | 6.1        |
| Others                                     | 6           | 4.6        |
| <b>Frequency of radio listenership</b>     |             |            |
| Regularly                                  | 48          | 36.4       |
| Often                                      | 25          | 18.9       |
| Occasionally                               | 56          | 42.4       |
| <b>Appropriate time for listening</b>      |             |            |
| 7-Noon                                     | 11          | 8.3        |
| 12-6pm                                     | 31          | 23.5       |
| 6pm-midnight                               | 89          | 67.4       |
| <b>Time spent listening(Duration)</b>      |             |            |
| 5-20 minutes                               | 45          | 34.1       |
| 21 -40 minutes                             | 34          | 25.8       |
| 41 -60 minutes                             | 31          | 23.5       |
| More than 60 minutes                       | 22          | 16.7       |

Source: Field survey: June 2013

Problems encountered by farmers with the agricultural radio programmes

Table 4 shows the level of severity of the problems the farmers face in listening to Agricultural radio programmes. It was discovered that the cost of radio (57.6%) and electricity (53.8%)were the most severe

problems limiting the farmers listenership of agricultural programmes. Most of the farmers do not have problem with the maintenance of the radio, the weather condition and language barrier. This implies that inconsistent power supply is a hindrance to effective radio programme.

Table 4: Constraints of farmers concerning radio programmes

| PROBLEM             | VERY SEVERE |      | SEVERE |      | NOT SEVERE |      |
|---------------------|-------------|------|--------|------|------------|------|
|                     | Freq        | %    | Freq   | %    | Freq       | %    |
| Cost of Radio       | 11          | 8.3  | 76     | 57.6 | 45         | 34.1 |
| Cost of Electricity | 18          | 13.6 | 71     | 53.8 | 43         | 32.6 |
| Maintenance         | 14          | 10.7 | 28     | 21.4 | 89         | 70   |
| Weather condition   | 18          | 13.7 | 24     | 18.3 | 89         | 67.9 |
| Language barrier    | 13          | 9.9  | 23     | 17.6 | 95         | 72.6 |
| Any other           | 4           | 3.1  | 5      | 3.8  | 122        | 93.1 |

Source: Field survey: June 2013

Adoption level of radio programme

Table 5 shows that a large number of people listening to Enunuchiagricultural programme are not using the knowledge acquired from the programme.Although they have heard and tried some of these methods but only few of these methods were adopted by the respondents.

The methods include type of local breeds (64.4%), housing (68.9%), inoculation (55.6%), vaccine (53.3%) and best time to breed (56.8%). This implies that the farmers are selective in there adoption since they did not adopt the whole innovation introduced to them. Moreover, it shows that the radio station did not obtain feedback from the farmers. This

result is in line with the report of Oladele (2005) who identified factors for discontinuance behaviour to include attitude, extension visit, feedback provision, marketability and input availability.

Table 5 further reveals that most of the farmers that listen to Agbeloba agricultural programme put the knowledge acquired from the programme into practice. A larger percentage of the farmers have adopted the innovations got through the radio agricultural programme. These innovations include type of potatoes (70.5%), planting on ridges (90.9%), harvest (97.8%), using the appropriate harvesting tool (93.2%) and planting with the stalk (100%). This implies that the farmers adopted the innovation obtained through

**Table 5: Level of adoption of radio information**

| ITEMS                               | HEARD IT  | TRIED IT  | ADOPTED   | TOTAL    |
|-------------------------------------|-----------|-----------|-----------|----------|
| <b>Enunuchi</b>                     |           |           |           |          |
| Types of local                      | 1 (2.2)   | 15 (33.3) | 29 (64.4) | 45 (100) |
| Agric Hybrid Broiler                | 1 (2.2)   | 37 (82.2) | 7 (15.6)  | 45 (100) |
| Agric Hybrid Layer                  | 4 (8.9)   | 37 (82.2) | 4 (8.9)   | 45 (100) |
| Agric Hybrid Cockerel               | 2 (4.4)   | 36 (80.0) | 7 (15.6)  | 45 (100) |
| Housing                             | 1 (2.2)   | 13 (28.9) | 31 (68.9) | 45 (100) |
| Water                               | 2 (4.4)   | 34 (75.6) | 9 (20.0)  | 45 (100) |
| Feed                                | 2 (4.4)   | 32 (71.1) | 11 (24.4) | 45 (100) |
| Feed for Broiler                    | 4 (8.9)   | 33 (73.3) | 8 (17.8)  | 45 (100) |
| Feed for Layers                     | 5 (11.1)  | 33 (73.3) | 7 (15.6)  | 45 (100) |
| Feed for cockrel                    | 7 (15.6)  | 31 (68.9) | 7 (15.6)  | 45 (100) |
| Inoculation                         | 14 (31.1) | 6 (13.3)  | 25 (55.6) | 45 (100) |
| Vaccine                             | 13 (28.9) | 8 (17.8)  | 24 (53.3) | 45 (100) |
| Best time to breed                  | 8 (18.2)  | 11 (25.0) | 25 (56.8) | 45 (100) |
| Laying time 24wks                   | 18 (40.0) | 6 (13.3)  | 21 (46.7) | 45 (100) |
| Laying time 19wks                   | 24 (53.3) | 9 (20.0)  | 12 (26.7) | 45 (100) |
| Laying time 18wks                   | 22 (48.9) | 8 (17.8)  | 15 (33.3) | 45 (100) |
| Maturity of cockerel                | 23 (51.1) | 7 (15.6)  | 15 (33.3) | 45 (100) |
| Maturity of Broiler                 | 20 (44.4) | 7 (15.6)  | 18 (40.0) | 45 (100) |
| Maturity of Layers                  | 20 (44.4) | 5 (11.1)  | 20 (44.4) | 45 (100) |
| <b>Agbeloba</b>                     |           |           |           |          |
| Types of potato                     |           | 12 (27.3) | 31 (70.5) | 44 (100) |
| Types of soil                       | 1 (2.2)   | 17 (39.5) | 17 (39.5) | 43 (100) |
| Plant on ridges                     | 9 (20.9)  | 4 (9.1)   | 40 (90.9) | 44 (100) |
| Harvest                             | -         | 1 (2.2)   | 43 (97.8) | 44 (100) |
| Harvesting tools                    | -         | 3 (6.8)   | 41 (93.2) | 44 (100) |
| Plant stalk                         | -         | -         | 43 (100)  | 43 (100) |
| <b>Tebo</b>                         |           |           |           |          |
| Varieties: TMS30572                 | 3 (8.1)   | 12 (32.4) | 22 (59.5) | 37 (100) |
| TMS4 (2)                            | 8 (21.1)  | 18 (47.4) | 12 (31.6) | 38 (100) |
| TMS1425                             | 7 (18.4)  | 15 (39.5) | 16 (42.1) | 38 (100) |
| TMS 99/2123                         | 9 (26.3)  | 12 (31.6) | 16 (42.1) | 38 (100) |
| TMS 98/058                          | 10 (26.3) | 12 (31.6) | 16 (42.1) | 38 (100) |
| Fertilizer Type: NPK                | 14 (36.8) | 15 (39.5) | 9 (23.7)  | 38 (100) |
| 15:15:15                            |           |           |           |          |
| Poultry droppings                   | 16 (42.1) | 18 (47.4) | 4 (10.5)  | 38 (100) |
| Cow dung                            | 6 (15.8)  | 16 (42.1) | 16 (42.1) | 38 (100) |
| Fertilizer Requirement: 4-8 bags/ha | 18 (47.4) | 13 (34.2) | 7 (18.4)  | 38 (100) |
| Soil Type: Loamy soil               | 5 (13.2)  | 24 (63.2) | 9 (23.7)  | 38 (100) |

agbeloba. This shows that their adoption is sustainable; probably the innovation must have impacted into their farm enterprise.

Table 5 also shows that many of the farmers that listened to Tebo agricultural programme tried the innovation but only very few of them adopted it. The innovations that has been tried by most of the farmers are soil type: loamy (63.2%), time of maturity hybrid variety (63.2%), time of maturity local variety (63.2%) and TMS4 (2) (47.4%). However, the variety that is mostly adopted by the farmers is TMS30572 (59.5%). This findings show that farmers partially adopted the Tebo agricultural program since they only adopted one variety of the hybrid. It may be others were not favourable to their environment.

|                                  |         |          |          |          |
|----------------------------------|---------|----------|----------|----------|
| Time of maturity Hybrid variety. | 4(10.5) | 24(63.2) | 10(26.3) | 38 (100) |
| Local variety                    | 8(21.1) | 24(63.2) | 6(15.8)  | 38 (100) |

Source: Field survey: June 2013

Correlation analysis

There was no significant relationship between the selected socio-economic characteristics of the farmers and the effect of the farm radio programme on level of knowledge used by the farmers( Table 6). This

implies that the socio economic status do influence the level of adoption of the innovation. It shows that there are other factors that farmers may likely consider before adopting a particular innovation.

Table 6: Correlation between socio-economic characteristics and level of knowledge used

| Socio economic characteristics | Sex                | Age                | Marital status     | Household size      | Education attainment | Religion           | Year of farming experience |
|--------------------------------|--------------------|--------------------|--------------------|---------------------|----------------------|--------------------|----------------------------|
| Level of knowledge used        | P=0.829<br>r=0.033 | P=0.375<br>r=0.135 | P=0.095<br>r=0.252 | P=0.069<br>r=-0.274 | P=-0.069<br>r=-0.274 | P=0.203<br>r=0.193 | P=0.180<br>r=0.203         |

Analysis of Variance

Table 7 shows that there was a significant difference in the effect of farm radio programme across the three ethnic groups in kwara state. The result across the three ethnic groups shows that agricultural program by Agbeloba was well adopted by the farmers than the other two ethnic groups.

Table 7: Analysis of variance across the three different ethnic groups ANOVA

|          | Languages      | Df | F      | Sig. |
|----------|----------------|----|--------|------|
| ENUNUCHI | Between Groups | 1  | 27.541 | .000 |
|          | Within Groups  | 44 |        |      |
|          | Total          | 45 |        |      |
| Agbeloba | Between Groups | 1  | 35.613 | .000 |
|          | Within Groups  | 44 |        |      |
|          | Total          | 45 |        |      |
| Tebo     | Between Groups | 1  | 4.514  | .039 |
|          | Within Groups  | 44 |        |      |
|          | Total          | 45 |        |      |

Conclusion and Recommendation

The results of the study revealed that farmers listened to radio agricultural programme and some of them have used the knowledge acquired from the program to improve their agricultural productivity. Therefore, efforts should be intensified by government, change agents and radio stations to improve on the transmission of agricultural programmes. Specialist in the different fields

of agriculture should be employed to disseminate agricultural information. Besides, there should be proper mastery of the local languages for the farmers to benefit maximally.

## References

- Agwu, A. E., Ekwueme, J. N., & Anyanwu, A. C., 2008, Adoption of improved agricultural technologies disseminated via radio farmer programme by farmers in Enugu State, Nigeria, *African Journal of Biotechnology*, 7 (9): 1277-1286.
- Chapman, R., R. Blench, G. Kranjac-Berisavljevic, A. Zakariah, 2003. Rural radio in agricultural extension: the example of vernacular radio programmes on soil and water conservation in N. Ghana: Overseas Development Institute.(pg85-86)
- Dixon, J., Taniguchi, K., Wattenbach, W., & Tanyeri-Arbur, A., 2004, Smallholders, globalization and policy analysis, AGSF Occasional Paper 5, [online], <http://www.fao.org/docrep/007/y5784e/y5784e00.htm#Contents>. Accessed 9 may 2010
- Ekumankama, O.O., 2000. Farmers' level of satisfaction with formal agricultural information source in Umuahia, Abia state, Nigeria. *Journal of Sustainable Agriculture and Environment*, 2(2): 257-263
- IFOAM, 2003, Organic and Like-Minded Movement in Africa, International Federation of Organic Agriculture Movements (IFOAM), Bonn, 2003: 102-108
- Nakabugu, S.B., 2001. The role of rural radio in agricultural and rural development translating agricultural research information into messages for farm audiences. *In the proceeding of first International Work on Farm Radio Broadcasting*. 19-22 February, Uganda.
- Nwachukwu, C. A., 2010, Adoption of Organic Agricultural Technologies: Implications for Radio farmer Agricultural Extension Programmes in Imo State, Nigeria, Scientific and Technical Information and Rural Development IAALD XIIIth World Congress, Montpellier, 26-29 April 2010
- Nwankwo, U, M., Peters, K, J., & Bokelmann, 2009, Information access and relevance affect adoption decision: Rethinking adopter categorization, *Research Journal of Agriculture and Biological Sciences* 5:411-22.
- Olaleye, R, S., Gana, F, S., Umar, I, S., Ndanisa, M, A., & Peter, E, W., 2009, Effectiveness of Radio in the Dissemination of Agricultural Information among farmers in Edu Local Government Area of Kwara State, Nigeria, *Continental Journal of Agricultural Science* 3: 1 - 6, 2009, © Wilolud Online Journals, 2009.
- Tucker, M, & Napier, T, L. 2002. Preferred sources and channels of soil and water conservation information among farmers in three mid-western US watersheds, *Agriculture, Ecosystems & Environment*; 92:297-313.
- Yahaya, K.M. 2001. Media pattern of women farmers in Northern Nigeria: imperatives for sustainable and gender sensitive extension delivery. African crop science conference proceedings 5. 1:747-754.