**Socio demographic factors and ethnobotanical knowledge associated with sesame management practices across agroecological zones in Benin.**

**Supplementary materials**



**Fig S1:** Map of surveyed areas across agroecological zones in northern Benin

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| **Table S1:** Socio demographic factors influencing sesame management practices such as intercropping, use of fertiliser and pesticide. |
| **Intercropping** |
| Variable | Coefficient | Standard Error | Z value | P > |Z| |
| Gender | -1.82727  | 0.38601  | -4.734  | 2.2e-06 \*\*\* |
| Age | 0.02764  | 0.01287  | 2.148  | 0.0317 \* |
| Educational attainment  | 0.10580  | 0.13561  | 0.780  | 0.332  |
| Peulh and related | -15.68830  | 1014.83210  | -0.015  | 0.9877 |
| Bariba and related | -2.48353  | 9.64042  | -0.258  | 0.7967 |
| Yoa-lokpa and related | -1.08939  | 7.93151  | -0.137  | 0.8908  |
| Dendi and related | 0.80038  | 6.25344  | 0.128  | 0.8982  |
| Otamari and related | -0.36010  | 4.59370  | -0.078  | 0.9375  |
| Yoruba and related | -0.25551  | 3.17070  | -0.081  | 0.9358 |
| Mossi | 0.4336 | 4.78956 | 0.087 | 0.9572 |
| Zerma | -0.3429 | 3.1589 | -0.078 | 0.9365 |
| Intercept | -0.17603  | 13.02574  | -0.014  | 0.9892 |
| **Use of fertiliser** |
| Gender |  4.967e-01 |  8.329e-01  | 0.68  | 0.00331\*\* |
| Age |  -1.506e-02  |  2.214e-02  | -0.596  | 0.496 |
| Educational attainment  | -2.407e-01  |  2.156e-01 | -1.116  |  0.264 |
| Peulh and related | -4.513e+15 |  5.501e+14  | -8.202 | 2.36e-16 \*\*\* |
| Bariba and related | -7.667e+12 | 4.716e+14 | -0.016 | 0.987 |
| Yoa-lokpa and related | -6.389e+12 | 3.930e+14 | -0.016 | 0.987 |
| Dendi and related | -5.112e+12 | 3.144e+14 | -0.016 | 0.987 |
| Otamari and related | -3.834e+12 | 2.358e+14 | -0.016 | 0.987 |
| Yoruba and related | -2.556e+12 | 1.572e+14  | -0.016 | 0.987 |
| Mossi | -1.278e+12 | 7.859e+13  | -0.016 | 0.987 |
| Zerma | -1.078e+12 | 7.859e+13  | -0.016 | 0.987 |
| Intercept | -4.303944  | 1.450504  | -2.967  | 0.00301 \*\* |
| **Use of pesticide** |
| Gender | 1.817e+00  | 3.661e-01  | 4.961  | 7e-07 \*\*\* |
| Age | -8.490e-03  | 1.229e-02  | -0.691  | 0.490 |
| Educational attainment  | 3.670e-02  | 1.202e-01  |  0.305  | 0.760  |
| Peulh and related | 4.477e+15 | 1.377e+14  | 32.507  | 2e-16 \*\*\* |
| Bariaba and related | -2.269e+13 | 1.181e+14 | -0.192 | 0.848 |
| Yoa-lokpa and related | -1.891e+13 | 9.838e+13 | -0.192 | 0.848 |
| Dendi and related | -1.513e+13 | 7.870e+13 | -0.192 | 0.848 |
| Otamari and related | -1.513e+13 | 5.903e+13 | -0.192 | 0.848 |
| Yoruba and related | -7.564e+12 | 3.935e+13 | -0.192 | 0.848 |
| Mossi | -3.782e+12  | 1.968e+13  | -0.192  | 0.848 |
| Zerma | -3.769e+12  | 1.965e+13  | -0.192  | 0.848 |
| Intercept | 3.026e+13 | 1.574e+14  |  0.192  | 0.848  |
| \*\*\*: p<0.001; \*\*: p<0.01; \*: p<0.05, Z-value is the regression coefficient divided by standard error |

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| **Table S2:** Scores of variables related to sesame farm typology and reason for sesame production on five first principal component |
| Variables | Dim 1 | Dim 2 | Dim 3 | Dim 4 | Dim 5 |
| Use of fertiliser | -0.244  | -0.21 | 0.487 | -0.452 | -0.074 |
| Use of pesticide | 0.735  | -0. 056 | 0.06 | -0.452  | 0.204 |
| Intercropping  | -0.532 | -0.0.36 | -0.078  | 0.098 | 0.146 |
| Seed origin | -0.016  | -0.42 | -0.553  | -0.243 | -0.139 |
| Type of field ploughing | -0.057 | 0.274  | 0.35 | -0.570 | -0.447 |
| Seed drying place | 0.19 | 0.694 | -0.367 | -0.032 | -0.242 |
| Storage material  | -0.034  | -0.603 | -0.104  | 0.561  | 0.004 |
| Source of labour  | 0.508 | -0.14 | -0.421  | 0.203  | 0.379 |
| Reason for sesame production  | 0.04 | 0.032 | 0.235 | -0.432 | 0.757 |
| Yield kg.ha-1 | 0.508 | -0.033  | 0.458 | -0.107  | 0.088 |
| Area devoted to sesame production  | 0.67 | -0.125  | 0.126 | 0.112 | -0.059 |
| % of variance | 17.23 | 11.99  | 11.66 | 10.65 | 9.78 |
| Cumulative % of variance | 17.23 | 29.22 | 40.89 | 51.55 | 61.34 |
| Dim: principal component |  |  |  |  |  |



**Fig S2:** Different types of cultivars of sesame based on seed color and seed size; a) yellowish-seeded with small size **b)** withe-seeded with small size **c)** black-seeded with big size **d)** white-seeded with big size **e)** reddish-seeded with big size.

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| **Table S3:** Local nomenclature of sesame cultivars according to sociolinguistic groups and agroecological zones of Benin |
| Socio linguistic group | Far North Zone (FNZ) | Food-producing zone of southern Borgou (FPZSB) | Northern Cotton Zone (NCZ)  | West Atacora Zone (WAZ) |
| Bariba and related |  | Boussoum, moussoum, houwin | lempti | Kaham; kassam, mounssimin |
| Dendi and related | Lempti,  |  |  |  |
| Yoa-lokpa and related  |  | Sowa, sosowan  |  | Sowa, saham,  |
| Peulh and related  |  | Boussoumari | lempti |  |
| Otamari and related  | hignin | hignin, ngnin, Ngné, | hignin,  | Wôgounmou, sari, Wôgoundam, Wôdomepè, Ognangou, Ignin, Mouwalowouan, N'ssodomepime, Sonkouessi;sonda,  |
| Yoruba and related  |  | Monhin |  | Sari, gouolo; yinti |
| Others  | Lempti  | Lempti |  | Sonwin, sonda, N'sôromou |