**Results trials W Kenya, long rains 2012**

Conclusions from 2012 trials

1. In four out of six sites, soybean grain and/or stover yield responded significantly to inoculation.
2. If data from all four soybean input trials are combined, the effect of inoculation is highly significant.
3. If data from all four soybean input trials are combined, Sympal fertiliser gives significantly higher grain and stover yields than SSP.
4. The addition of Zinc led to significantly higher yields in soybean at one site (out of four). If data from all four soybean input trials sites are combined, the effect of Zn addition is not significant relative to Sympal without Zn.
5. The use of SSP, Sympal or Sympal+Zn increases yield of bush bean and climbing yield at all sites, relative to the control treatment.
6. In none of the trials, the use of Sympal (with or without Zn) gave a significantly higher yield than the use of SSP in beans.
7. Bush bean stover yield responded positively to inoculation at one out of seven sites. At one other site, there was a significant negative response to inoculation.
8. Two out of three climbing bean trials showed a significant positive response to inoculation.
9. Soybean variety Squire gave higher yields than SB19 in input trials, but this was highly variable between sites.

**Soybean input trials**

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Migori-Lawrance Ndenga |  |  |
| **Mandate area name** | Nyanza |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034.50662'** | **S01.9993'** | **1440** |

Planted: 25-5-2012

*Grain*

Fertiliser Fpr = 0.003 SSP, Sympal and Sympal+Zn different from Control, Sympal+Zn different from Sympal and SSP

Inoculation Fpr = 0.003

Variety Fpr < 0.001

*Stover*

Variety F pr < 0.001

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Kisumu West |  |  |
| **Mandate area name** | Nyanza |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034.44459'** | **S00.05921'** | **1378** |

Planting data: 20-04-2012

*Grain*

Fertiliser Fpr < 0.001 SSP, Sympal, Sympal+Zn different from control, no differences between these

Variety Fpr = 0.029

*Stover*

Fertiliser Fpr = 0.006 SSP, Sympal, Sympal+Zn different from control, no differences between these

Variety F pr = 0.020

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Bungoma-Ekitale |  |  |
| **Mandate area name** | Western |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034.62314'** | **N00.56412'** | **1469** |

Planting date: 07/04/2012

*Grain*

Fertiliser Fpr = 0.010 Sympal and Sympal+Zn different from Control and SSP, no significant differences within these groups

Inoculation F pr < 0.001

*Stover*

Fertiliser Fpr = 0.018 Sympal and Sympal+Zn different from Control, Sympal different from SSP, Sympal+Zn not different from SSP or Sympal

Inoculation Fpr = 0.010

Variety Fpr = 0.009

|  |  |  |  |
| --- | --- | --- | --- |
| **Country** | Kenya |  |  |
| **Action site** | Butere-David Andati |  |  |
| **Mandate area name** | Western |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034.5085'** | **N00.21989'** | **1376** |

Planting date: 24/04/2012

*Grain*

Fertiliser Fpr <0.001 Sympal and Sympal+Zn different from SSP and Control

Variety F pr < 0.001

*Stover*

Variety Fpr < 0.001

**Statistics all 4 soybean input sites combined**

*Grain*

Fertiliser F pr < 0.001 Grain yield with sympal and Sympal+Zn different from Control and SSP, no difference between Sympal and Sympal+Zn

Inoculation F pr = 0.001 Inoculation increases grain yield

Variety F pr < 0.001 Squire produces higher yields than SB19

Stover

Fertiliser F pr = 0.004 Sympal and Sympal+Zn different from Control

Inoculation F pr = 0.023

**Soybean variety trials**

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Butula Patrick Obwanga |  |  |
| **Mandate area name** | Western |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034˚ 16' 46.8"** | **N00˚ 21' 25.5"** | **1282** |

Planting date: 17/04/2012

Statistics

*Grain*

Inoculation Fpr = 0.047

*Stover*

Variety Fpr = 0.002

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Migori -VAR SB Olwal |  |  |
| **Mandate area name** | Nyanza |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034.47550'** | **S00.96356'** | **1418** |

Planting date: 11/04/2012

Statistics

*Grain*

Inoculation Fpr < 0.001

*Stover*

Variety Fpr < 0.001; inoculation F pr < 0.001

**Bush bean input trials**

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Mabanga ATC |  |  |
| **Mandate area name** | Western |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034.62244'** | **N00.60377'** | **1515** |

Planting date: 17/04/2012

BUSH BEAN

Statistics

*Grain*

Fertiliser Fpr =0.006; SSP, Sympal and Sympal+Zn different from control

*Stover*

Inoculation F pr = 0.021

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Migori-Mark Onyango |  |  |
| **Mandate area name** | Nyanza |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034.56424'** | **S01.00421'** | **1510** |

Planting date: 22/03/2012

BUSH BEAN

Statistics

*Grain*

Fertiliser Fpr < 0.001; SSP, Sympal and Sympal+Zn all different from Control

Variety Fpr = 0.013

*Stover*

Fertiliser Fpr = 0.004; SSP, Sympal and Sympal+Zn all different from Control

Variety Fpr = 0.019

**Climbing bean input trials**

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Bungoma -Josphat Makata |  |  |
| **Mandate area name** | Western |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034.59877'** | **N00.67200˚ 09'** | **1532** |

Planting date: 07/04/2012

Statistics

*Grain*

Fertiliser Fpr <0.001; SSP, Sympal and Sympal+Zn all different from Control

Variety Fpr = 0.033; RWV yields higher than Kenya Tamu

Variety x Inoculation Fpr = 0.038

*Stover*

Fertiliser Fpr<0.001; SSP, Sympal and Sympal+Zn all different from Control

Inoculation Fpr < 0.001

Variety Fpr = 0.029

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Migori -INPUT CB Olwal |  |  |
| **Mandate area name** | Nyanza |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034.47550'** | **S00.96356'** | **1418** |

Planting date: 11/04/2012

CLIMBING BEAN

Statistics

*Grain*

Fertiliser Fpr = 0.005; SSP, Sympal and Sympal+Zn all different from Control

Inoculation F pr = 0.017

*Stover*

Fertiliser Fpr = 0.011; SSP, Sympal and Sympal+Zn all different from Control

**Bush bean variety trials**

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Bondo -Janes Hongo |  |  |
| **Mandate area name** | Nyanza |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034.33963'** | **S00.** | **1318** |

Planting date: 23/04/2012

Statistics

*Grain*

Variety Fpr = 0.048

Inoculation Fpr = 0.035 Note: uninoculated gave higher yields than inoculated

*Stover*

Variety Fpr = 0.031

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Bungoma-Josphat Makata |  |  |
| **Mandate area name** | Western |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034.59877'** | **N00.67200'** | **1532** |

Planting date: 07/04/2012

BUSH BEAN

Statistics

*Grain*

No significant effects

*Stover*

No significant effects

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Butula -Patrick Obwanga |  |  |
| **Mandate area name** | Western |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034'16'46.8''** | **N00'21'25.5''** | **1282** |

Planting date : 17/04/2012

BUSH BEAN

Statistics

*Grain*

No significant effects

*Stover*

No significant effects

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Kakamega south- Meshack Masheti |  |  |
| **Mandate area name** | Western |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034˚ 42' 05.6"** | **N00˚ 14' 37.2"** | **1438** |

Planting date: 05/04/2012

BUSH BEAN

Statistics

*Grain*

Variety F pr < 0.001

*Stover*

Variety F pr < 0.001

|  |  |  |  |
| --- | --- | --- | --- |
| **Action site** | Migori- Michael Okello Olwal |  |  |
| **Mandate area name** | Nyanza |  |  |
|  | **Longitude** | **Latitude** | **Altitude [m]** |
| **Site Coordinates (GPS)** | **E034.47550'** | **S00.96356'** | **1418** |

Planting date: 11/02/2012

Statistics

*Grain*

No significant effects

*Stover*

No significant effects

**Climbing bean variety trial**

|  |  |
| --- | --- |
| **Action site** | Marcel Olela |
| **Mandate area name** | Nyanza |

Planting date: 06/04/2012

Statistics

*Grain*

Variety F pr = 0.020

*Stover*

Variety F pr < 0.001