Desta Fekadu

* Overview
* **Totally 29 activities**
* Three projects
  + Adoptn, devt and prom of **aromatic grasses and herb tech**
  + Adopn devt and prom of improved **aromatic Shrub and trees**
  + Adopn devt and prom **Medicinal plants**
* 2.2 million birr
* 85,285 birrr/activity
  + Breeding (60%)
  + Agronomy (28%)
  + Post harvest (7%)
  + Agric extension
* Expected output (2016/2017)
  + Technology 2 (E globuluss + Rue 4 genotype)
  + Information
    - Plant space rue
    - Basil

**Achivements of the program in research 2016/17**

* three different varieites released

Lemon balm + two roselle

* Technology distribution (Sidama + Oromia + Amhara)
  + - Rosemary
    - Peppermint
    - Lemon balm
    - Stevia

Future direction

* More attention shoud be given for indigenous crops
  + Varietiy development
    - Rue
    - Thyme
    - Koseret
    - Ariti
    - Aloe species
    - What about stevia? Bixa? Grasses?
  + Chemical analysis
  + Demonstration and promotion
* Encouraging market led large scale promotion

Efforts of the program beyond of the research

* Training
  + MoA (TOT given on selected MAPs)
  + Sidama
  + Oromia
  + Gena Trading
  + AHRI (Armor Henson Research Institute)
  + Techno serve
* Demonstration of works using different medias
  + OBN
  + ENA
  + SMN
  + Fana Tv and Radio
  + EBC
  + ARTS tv
  + Addis Zemen
* Awareness creation for different stakeholders
  + Agriculture organs
    - MoA
    - Coffee and tea authority
    - Agricultural expertise and farmers
  + Ag investors
    - Local and internationals
    - Local enterpreneurs
  + Universities and higher eductation institutions
    - Teachers and students
  + Health institutions
    - Ministry of health
    - Public health institution
* Intimate stakeholders
  + EPHI
  + Ethiopian Coffee and tea
  + Tobacco enterprise
  + Hawassa Un
  + Adama Univ
  + Mo
  + A
* Challenges
  + Budget limitation
  + Absence of greenhouse
  + Absence of experience sharing for researchers
  + Security problem
  + Limitation of field vehicles
  + What other efforts were there to raise funds

Research Activities

* 8 ongoing activities
  + Breeding (4)
  + Maintenance (3)
  + Extn (1)

1. Maintnce of Aromatic Grasses and herbs
2. Mnt shrub and trees
3. Mnt of medicinal platns

Summary

1. Lemon grass three varie
2. Vetiver one
3. Palmarosa two var
4. Citronella grass

Herbs

1. Basil and other many

**Shrub and tree**

Lavendulan, lemon verbena, rosemary, collected accessions, demask rose, gesho, eucalyptus, **Gesho**, globulus, citron scented gum, **Annatto**

**Medicinal plants**

Many of them

1. **Rue** variety trail verification trial
   1. Location: wG, qoqa, sembero
   2. Duration: ~ 2018
2. **Koseret** PVT for agronomic and quality trait
   1. WG
   2. Desta and Desta A
   3. First data was collected
   4. Where do you get the genotypes ?
   5. What is TEYH and TEOYH? Is that the standard?
3. PVT on **GESHO**
   1. 32 genotypes
4. Establishment of farmers group as an out growers for commercial MAPs and creating market linkage
   1. There are four objectives ()
   2. Who are buyers of the produce?
   3. Location: silte, gurage, Hadiya, kefa and central Oromia

Summary of activity progress

* We started some communication with d/t regions

1. VVT on **Globulus**
   1. Menagesha, koka, wondo

**Dejene Tadesse**

* 14 activities (13 ongoing)
* 1 new activity

Ongoing

1] PVT **thyme** collection (indige/ tosign)

-6 accession

- Alage WG and other location

- intermediate results

- we identifying

2] **Aloe** collection and characterization (PVT of aloe)

- accession collection done

- disease data collected

- gel yield data collected

- two accessions are identified

3] Breeder seed multiplain of selected aromatic shrub and tree plants

- rosemary

- lavender

-sage

- lemon verbanana

4] Breeder seed mulpn of selected medicinal plant

- stevia

- karkade

- lemon balm

5] Performace evn of **rosemary** varieties on acid soil condition

- Atoye location | Hagereselam

- PH , NPB, FLYPH, DLYPH, DSWPH, EOY

Soil sample displays the variation in OMC and others, how are you then going to conclude is that because of soil acidity?

Lolas et al., 2024. Why didn’t you consider greenhouse experiment?

Ongoin activities- Coll Season veg Research Program

6] **Carrot** NVT for yield and yield related traits

- initiated at Holleta

7] Pre extn demonstration of **carrot seed** multiplication technology

Warm season VEG Resa Program

8] **Hot pepper** NVT for dry pod purpose

- not started

9] **Onion** VVT

- not started

10] Breeder seed multiplication of **onion**

11] Breeder seed mulpn of **tomato**

**CALM supported ongoing activities**

12] Promotion production and consumption of nutrient dense **organge fleshed sweet potato** varieites for food security at Medo Watershed

13] Demontn and enhancing the transfer of **Avocado** through

**NEW activity**

14] Pre extn demonstn of **Hibiscus** on Shashemene and butajira areas

* 4 varieites are already there
* agronomic packages are available
* products of hibiscus are already available

Objectives:

* 2018-2019
* Two recently released hibiscus varieites will be considered? But why and what is your criteria for that?

**KEDIR W**

* 3 ongoing activities

1. PVT of sweet basil for higher herbal and eo yield
   1. 2016-2018
2. Breeder seed multnp of two barieites of Ethiopi. Sweet basil
   1. 2017
   2. Two varieites are beign multiplied
3. PVT of Ariti genotypes for herbal yield performace and chemical characterizeation
   1. Sawula and Kucha
   2. 2016-2018
   3. Some amt of accessions collected from the SE region

**Habtamu Gudisa**

* 3 activitis (1 OG + 1 N)

1. Basil NVT
   1. Aynalem G, Habtamu G,
2. Damakase (Ocimum l) PVT to ***be completed***
3. Damakese NVT - ***NEW***
   1. Design RCBD

Q & A

Desta presentations

1. Bekri
   1. Mint species
   2. በቂ ኮሌክሽን መከናወን አለበት? እሬት/ ባዝል/ ariti
   3. Collaboration issues are?
2. Goshime
   1. Plant physiology activities are missed
   2. Collaboration (how are your interaction with other universities)
   3. The concept of breeding (accession, pvt, nvt)? Are we doing actual breeding? Where is the gene manipulation
   4. Type of parameters we are collecting? EO vs
   5. Participation of farmers? Is that an activity to be registered as an
3. Ano
   1. 29 activities in the program is not enough
   2. When varieities are released they are not full package (protection)
   3. Rue 4 genotypes + 6 genotypes are being done by protection. How are they linked?
   4. Ariti ? there is limitation
   5. Activity 7 (has been presented last and before last year) the progress is not enough…
4. Dr. Tesfaye
   1. Physiology studies need to be considered, in addition to yield
5. Henok
   1. Lack of experience
   2. Activities are not quantitative… subjectiveness
6. Muluken
   1. Budget share for breeding ?
   2. Promotion (4 years …) this activity is also being proposed … ?
   3. Maintenance, what is scientific issues? What are the real objectives ?

**Obsitu**

1] Hibiscus

- preextension of hibiscus, is that not extension activity?

2) Promotion of Sweet potato

- this activity is also

**Bekri**

1] budget should not be presented for all problems

2] Dejene, Thyme + Aloe + Basil

* Ocimum basilicum ? chemotype
* taxonomic issues ? (we have to know our specific varieties)

3] Rosemary (Hagere Selam, Etoye) Rosemary

* pot experiment should have been considered
* Agro ecology issue need to be considered

4] Hibiscus

- Greenhouse production need to be considered

**Goshime**

1. What are we characterizing? Flower, pollination related data need to be considered [mode of reproduction]
2. Breeder seed multiplication is not properly stated? Is these activities … ?
3. Diversity research activities need to be focused (???)

**Dr. Tesfaye**

* Leaf area should be one of parameters

**Dr. Ashenafi**

* Acid soil related experiment should be performed in controlled environment
* Ariti as presented by Kedir. Collection has not been exhausted … let’s stop there and start collection ?

**Muluken**

* Kebericho collection ? and others need to be
* Kerkede: what parameter do you use to select the location?

**Second session [KEDIR]**

Cotton, and other industrial crops: Kedir

* 5 ongoing + 1 new on biofuel

1. Enhancing product, processing Castor (4)
2. Harnessing physicnut techl ()
3. NVT castor for higher seed and oil yield
   1. wGARC and Jajura
   2. Acc#6 and Accessn
4. Castor Breeder seed production
   1. Wondogenet
   2. 2016-18
   3. W/Mariam G and Kedir W.
5. VVT Castor
   1. WGARC and other four location
   2. 2016-2017
6. Maintenance of castor germplasm
   1. WGARC
7. Maintenance of germplasm of physic nut SET I and set II
   1. Alage (65) and Adamitulu (13 accessions)

NEW

8. Breeder seed multiplication and maintenance of release Jatropha varieity

Who are clients for your?

Challenges:

* Sheller
* Oil piler
* Fermentation tank and reagents
* Budget shortage
* Poor support with national program

**Wheat**

**Completed**

Technology development

1. Late maturity Bread wheat variety adaptation trial

**Damtew Abewey**

Potato

12 activities (3 potato)

1. Transfer of **improved potato produn technologies** utilization for rain fed and irrigated potato production sytem
   1. Training given
   2. Group discussion and visitng was carried out

What are the remaining technologies (burka, belete)

1. On farm evaluation of **potato bacterial wilt management**
   1. Location: H/Sidam
2. Potato NVT under irrigation for table purpose (suspended)

Root crops

1. Pre extn and demonstration of **OFSP** varieites
   1. Negele
   2. Alamura and Kabode varieites were demonstrated
2. Maintenance and multiplication of selected **SP** varieites for further research purpose
   1. Kabode, Alamura, Dilla, Shafeta (OFSP)
   2. Awassa-83, Mae, Berkume, Hawassa09 and Toal (white fleshed)
3. White fleshed Sweet Potato NVT
   1. WG/ Sakura, Chiro
4. Purple fleshed sweet potato NVT
5. Response of sweet potato varieites to d/t Intra and inter row spacing
   1. WGARC
   2. 2017-18

CIP TATT II OFSW project

CIP-EIAR-TAAT

1. Establishment of OFSP EGS multipln plot
2. Establishment of germplasm conservn plot
3. Supply clean planting material to decentralize vine multipliers
4. N
   1. Four OFSP varieites multiplied at 3 ha
   2. About 441,360 vine cuttings have been distributed to 363 households

**Habtamu Gudisa**

Tropical and Subtropical fruits research program

Tropical

1. Dessert Banana NVT
   1. MARC, JARC, Fogera and Adet (Weramit), WGARC
2. Performacne evln of high density planting banana
3. Promotion of released cooking banana varieites
   1. MARC and WGARC
   2. 36 model farmers from 3 woredas (WG, Dale and Aleta wondo woredas) of Sidama region
   3. Training was given for these 36 farmers, 3 ag experts and 6 DAS
4. Pineapple NVT
   1. JARC, FoARC, Adet and WARCs
   2. Hamle 2015 – Sene 2018
5. Multpn, promoton and scaling up pineapple varieites
   1. >= 4200 seedlings distributied
6. Papaya VVT
   1. MARC, Batu, Assosa and WGARC
7. Hermaphrodite papaya NVT
   1. Growth and phenological …

Sub Tropical

1. Colln and xzn of **local avocado germplasm** for better fruit yield, fruit quality and pest tolerant from potential growing areas of Ethiopia
2. Avocado NVT
3. Maintenance of Aovado varieites

FSRP

1. Avocado NVT (this is super imposed activity)

**CALM Project (NEW)**

1. **Promotin and scaling up of released banana varieities** for the improvement of food security and economic sustainability in the Mado watershed
   1. 9 varieites have been developed by EIAR
   2. How food security?
   3. What parameters are you going to measure ?
   4. Diversification enhancement
2. Promotion and scaling up of production and processing systems of released **Enset** varieites in Mado Watershed

SESSION THREE

YIDNEKACHEW (MAIZE, OIL CROPS)

Maize, wheat, soyben activities

* Reseach work in collaboration with Hawassa Unv

1. Devt and promotion of improved maize techs for d/t biotic and abiotic stresses in the Southern part of Ethiopia
   1. Breeding and Genetics
      1. Germplm intrn of **non-QPM germplasm** from exotic sources for evln under opimum conding for d/t foliar diseases
         1. 99 germplasm
      2. Non-QPM inbred line development of mid altitude (342 lines)
   2. Test cross-formation
   3. PVT of intermediate maturing non-QPM test cross hybrid vrieites for mid-altitude

* Tela project ()
  + It was launched in 2018 and builds on the progress made and lessons learned from water efficient maize for Africa project (WEMA)

1. National Performance Trial (MON810)
2. VVT (MON810)
   1. 12 VVT (9 on site + 2 on station)
3. Evln of yield performatce of genetically modified maize hybrids under CFT site

New activities

1. Evln of the yeld performance of genetically modified maize hybrids under natual infestation of stalk border and FAW across location
2. DUS test, testing of the distinctness, uniformity, and stabilisty of candidate varieity of bt maize hybrid and their parental lines
3. Evaln of candidate btmaize hybrids parents for seed yield producibility and nicking time in mid altitude agroecology Ethiopia
4. Pre-extension demonstration
5. VVT of btmaize hybrids
6. Performance evln of three way cross hybrids of intermediate maturing genotype (PVT)
7. Performance evln of three way cross hybrids of late-maturing group genotypes (PVT)
8. PVT of intermediate maturing hybrid varieites for mid-altitude sub humid agroecology
9. VVT for transilational
10. PVT of intermediate maturing pop corn opv …
11. Advanced variety trial for intermediate maturing hybrids selected
12. Pre extn demonstration of newly released …

Durum wheat

1. Natioal performance trail for early set DW for mid altitude
2. Varieity Vern of wheat

Soybean

1. Soybean NVT

**Awada**

* + - * 1. Colln, evaln and xzn of West Guji Coffee landrace (BC-21-)
* 39 accessions
* Kercha and …
  + - * 1. Testing Arabica coffee varies of diverse origins for broader adaptiation and better quality across d/t coffee growing ents in Ethio
* 22 varieites
  + - * 1. Establishment of crossing block
* Set I: 22 parental lines
* Set II: 27 parental lines
  + - * 1. Colln, evaln, xzn and maintenance of Guji Coffee Landraces (BC21-53-77)
* 33 accessions were collected from Guji zone
* 3 years data
* What is the difference with Act # 1
  + - * 1. Maintenance of South and Harerge coffee collections

>651 South and >900 accessions

* + - * 1. Verification Trial of promising South Eth Arabic Coffee selections for yield and yield components
* How many locations do you use, if it is a VVT?
  + - * 1. Adaptn traial of released coffee to Hadiya and West Arsi Zone
* Seed of 11 released
  + - * 1. Variety Trial of promising Amaro Coffee selections fro yield and yield components
* 14 selected coffee genotypes were planted in 3 locatons at Amaro Kele (Kore, Golbe, Kobo)
  + - * 1. Variety Trail of Promoisng South Ethion Jinka collection selections ffor yield and yield components
        2. Establishment of Southern Ethiopian Hybrid coffee clonal garden
        3. Colln, xzn , evln and maintenance of unaddressed South Ethiopian highland arabica coffee land races
* 47 genotypes

**Desta**

MAPS Agronomy

6 ongoing activities

1. Effect of inter and intra row spacing on biomass and eo yield of rue
2. Biomass and eo yield of globulus as influenced by age and height
3. Effect of vermicompost and chemical … rosemary
4. Landscaping, fencing and border planting of medicinal and aromatic plants for consumption, sustainable health and environmental beauty
5. Effect of population density and spatial arrangements of chamomile intercropping with maize
6. Effect of bovine bone and blood meal blened nano – fertilizer on growth, yield and component of rosemary
   1. What makes it nano?

**Sulti**

1. Effect of inter and intra row spacing on yield and yield components of **lemon verbena**
2. Study on effect of successive intercropping of **onion** and **basil** with sugarcane
   1. Not started
3. Effect of row spacing and harvesting age on **Oregano**
   1. Is oregano a priority crop? (reinitated)
   2. Why Koka is selected? Is that suitable for the plant? Is there enough space?
4. NEW: Response of **lemon verbena** to vermicopost and nitrogen fertilizer application
   1. Vermicompost and nitrogen fertilizer? Not clear
5. NEW: Effect of vermicompost and inorganic fertilizers on growth , yield and yield components of **roselle**
   1. What is your source of inorganic fertilizer?

**Hailu**

Cereal and pulse agronomy

* 2 NA + 4OA + 2CA

To be completed

1. Effect of phosphorus fertilizer on yield and yield component on soybean varieites
   1. Sankura and WG

How is the analysis and interpretation?

1. Maize climing bean intercropping at di/t times of bean planting at d/t agroecologies of Ethiopia
   1. What was the main objective?

Ongoing

1. Agronomic and economic evln of mung bean wheat double cropping system
2. Validation of the recommened spacing and phosphorus fertilizer rate for fababean prodn on d/t parts of Ethiopa
3. Validation and demonstratn spacing and phosphorus fertilizer

FSRP project

1. Validation of seed and nitrogen fertilizer rates for irrigated wheat in d/t parts of Ethiopia

New activities

1. Validation and demonstration of agronomic and economic evn of commn bean tef in double cropping system at Shashemene and Sankura woreda
   1. The activity is not clear? What is your plan? The title is not clear
   2. Is there any to be validated technology on common bean tef double cropping system?
2. Effects of crop rotation and nitrogen fertilizer rates on productivity of bread wheat and soil fertility
   1. What are the parameters you will going to taken to measure soil fertility ?

**Leta/ Meseret**

Coffee agronomy and physiology

1. Intercropping of coffee cultivar with banana at Awada South Ethiopia?
   1. How old is this activity?
2. Response of coffee cultivars to Cova planting at Major Coffee growing areas of Ethiopia
3. Coffee, banana and papaya intercropping for better land productivity enhancements at South Ethiopia
4. Integrated nutritn mgn for hybrid and pure line coffee varieites at South Ethiopia
   1. How many varieites do you use?
5. Identfn of ideal fast growing coffee shade tree species for d/t agroecologies of Ethiopia
   1. What criteria do you use?
6. Intercropping coffee cultivar with selected medicinal and aromatic plants in SE
7. Determining vermi compost rates for early growth, yield and qualities of coffee varieites at SE
   1. What is the assumption when you say Early Growth?
8. Validation and demonstration of improved coffee agronomic technoligis at SE

**Dr. Birru Y.**

**SOIL AND WATER MANAGEMENT RESEARCH PROCESS**

**IRRIGATION AND WATER HARVESTING RESEARCH PROGRAM**

**Ayele D.**

**Ongoing**

1. Validation and demons of optimal irrigation scheduling for pepper
2. Verfn and demo of alternatie furro irrigatn for lemongrass production
3. Detmn of optimal irrin scheduling for lemon balm
4. Detmn of optimum furrow spacing and intra row spacing for onion prodn under irrign
5. Verfn and demon of alternative furrow irrgn on wheat

Saline soil

1. Valdn and demonstn of salt tolerant wheat varities under salt affected areas

FSRP

1. Pre extn demonstn of irrigation scheduling for irrigated wheat

SSIS

1. Performance evnl of both community and household magaged irrigation scheme

**Kedir**

Total 12 activities

-5 Govt

- 6 CALM

-1 OCP

1. Evaluating ecosystem service values due to land use/land cover change in the Medo watershed
2. Assessment and idntn of potential rainwater harvesting sites for the sustainable management of the Medo WS
   1. How is the methodology?
3. Effect of soil and water conservn measures and agronomic practices on crop productivy and selected soil properties
4. Evaln of the effectiveness of exclosure on selected soil physicochemical properties
5. Participatory evln of difft grass species for soil bund stabilizn and carbons seqstn in Medo WS

CALM

1. Intrn and plantn of nich compatible tree species at Medo WS
2. Intn and evln of gully rehabilitation materils
3. Demon and evln of physical and biological SWC measures
4. Ddd
5. Xxx
6. Modeling the Net GHG emission/ sink under land use and management change in Medo WS

OCP

1. Promoting regenerative agril throght carbon farming initiatives for small scale agriculture

**Kidist**

**Biological and organic soil**

1. Evaln of effective nitron fixing strains for common bean production of field condins in the CRV of Ethiopia
2. Demon and populzn of vermicompost techns in the Medo watershed

New

1. Effcts of vermicopost produced from d/t

**Ribika Mekuria**

**Inorganic and integrated soil fertility mgt research program**

**13 activities**

6 ACT + 7 ACT

Govtal

1. Response of coffee to NP fertilizer grown in Nitosols of Awada and Wonago
2. Evln of d/t legume covers crops for soil fertility enhancement under
3. Effects of bioslurry and inorganic nitrogen fertiliz rates on soil properties, yield and yield components of maize
4. Effect of bioslurry and inorganic phosphorus fertilizer rates on ield and nutrient uptake of fababean under nitosol condn of Hula- H/Selam
5. Validn and demonstrn of integrated use of organic and inorganic fertilzr for maize
6. Valdn and demon of integrated use of organic and inortanic fertilizer sources for coffee

External Actv

1. Biochar based fertilizer: challenge and opportunity for widespread uptake of the techy by Ethn small scale farmers for increased grain productivity
2. Determin of optimum N and P fertilizer rates for maize
   1. What is new in this experiment?
3. Field validation of the National fertilizer DST for whet Crop
4. Field validn of the national fertilizer DST for tef crop
5. Participatory evln and demonsn of alternative and suitable phosp source fertilizer for the Ethiopina Agriculture (OCP)
   1. What criteria did you use for rating? DAP was third to the last one
6. Pre-extn demonstration of integrated vermicompost and inorganic nitrogen fertilizer application technology for wheat prdon
7. Scaling up and promotion of enhanceing productivity of haricot bean/ maize rotation through integrated Organic and inorganic fertilizer (CALM)

**Abraham Yacob**

* 17 activities

1 & 2) Evaln of the integrated effect of green manures and lime on barley and fababean crop and acid soil reclamation

3&4) Valdn and demon of integrated lime and vermicompost … soil acidity

5&6) Validation of d/t lime recommendation

1. Cluster based technology demon of d/t soil and water conservation practices, lime application on malt barley crops, …

FSRP project

1. Cluster based large scale demonstn …

GAYA

1. Semi omission trials of lime fertilizer combinations
2. Full factorial combination of d/t

All Ethiopia Coordinator (MoA)

1. On farm demonstn NP fertilizer + Lime + vermi compost combination
2. On farm demon of d/t lime appln rates on fertilizer (urea, NPS) use effectiveness
3. On farm demon of effect of bio red fertilizer appln on soili acidity and yield of food barley crops
   1. Is it commercial or what???

**Hanamariam Mekonnen**

1. effect of green manure with lime application to acid soil management
   1. greenhouse experiment???
2. Evln of integrated effect of biored and lime appln for acid soil reclamation and barley crop performance
   1. Is this activity a followup to the previous one?
3. ???
4. Validn of micro dose appln of lime on barley crop in acid soil prone areas Bule
5. Demon of vermicompost, lime and NP fertilizer on wheat crop performance in Acid soil
6. Large scale demonstn of lime, and phosphurs fertilizer appln on yield of food …

Dr. Tolessa

Guta B.

Economics (7 activities)

**Ongoing**

1. Coffee seed system analysis in Ethiopia
2. Economic analysis of spices, MAP

To be completed

1. Analysis of small hoder farmrs’ participation in the direct coffee export market in Ethiopia
   1. How small are the farmers???
   2. Define the direct market … (farm gate + main market)
   3. You mentioned constraints (is that for the smallholder or overall coffee market)
2. Performance of coffee processing industries in Ethiopia
   1. You provided us about ECTA ?
   2. Constraints???

FSRP

1. Performance of agrl commercial clusters and their sustainablility

NEW

1. Nexus b/n domestic coffee prodn
2. Spices (ginger, garlic & fenugreek) sub sector outlook research in Ethiopia
   1. Availability or marketing problem in these commodities?

**Derese Teshome**

Agricultural Extension Research Activities

Eyuel T.

15 activities

* 10 ongoing
* 2 completed
* 3 new activities

To be completed

1. LSD of **maize** varieity in selected districts of west arsi and silte zone
2. LSD of **food barley** varieity in … (Hula, )
3. Preextn demonstration of **vermicompost** in Shebedino coffee cluster farm
4. Preextn demons of **wheat varieites** in selected districts of sidama region and west Arsi Zone
5. Preextn demon of **herbanl and medicinal plants**
   1. Five map nursery sites established
6. Preextn demonsn of sweat potato varieites in selected districts of west arsi and gedio zone
7. LSD of banana varieites in selected districts of **Central Ethiopia**?
   1. Mandate area? For plant species outside of the center of excellence

Project supported activities

1. LSD of wheat varit in selected distcs of sideman and west arsi zone
2. LSD of … Shebedino and Aleta Chuko
3. Prextn demon of avocado in medo model watershed site

NEW

1. Prexnt demon of modern beekeeping technologies in selected districts of Sidama region and Gedio zone
2. Prextn demon of improved pineapple to Sidama region (Aleta Wondo and Aleta Cheko …)
3. Prextn demon of improved maize varieity (BH520): the case of West Arsi and Halaba Zone

By: Diribi M.

Livestock Research Process

Feed and Animal Nutrition

* + 1. Onstation seed multipn of **promising forage** species at WG
    2. Demonstrn and evln of released **bracharial grass** varieites in selected districts of sidmama region and wet arsi zone, South Ethiopia
    3. Forage yield and **chemical compostion** of bracharia grass intercropped with forage legumes at WG, Sidama, Ethiopia
       1. What are those chemical compositions?
    4. Effect of vermicopost on growth yield and chemical compostion of desho grass at WG south Ethiopia
    5. Effect of Vermicompost on agronomic, yield and chemical compostion of Napier grass at WG, SE
    6. Effect of intercropping cowpea with maize on grain yield, forage yield and forage quality in moisture stress area of west arsi zone and halaba special zone, Ethiopia
    7. Bracharia brizantha NVT for forage yield and nutritional quality
    8. Napier grass … agronomic performace

Poultry

1. Evln of d/t medicinal and aromatic plants
2. Effect of silkworm pupac meal inclusion in broiler ration on growth performance, meat quality and economic analysis
3. Devt and evaln of nano encapsulated lemongrass eo edible coating emulsion to preserve chicken eggs

**Edao Shanku**

**Apiculture, Seiculture and Dairy**

1. Demonstration and Evaluation???
2. Collection, characterization etc of castor

Food Sciences

Food Technologies draft manuals

Challenges:

* Laboratory equipment/facility
* Budget

Onging

1. Extrn and xzn of **stevioglucoside** from stevia lefaf
2. Formuln of lemon verbena flavor based **carbonated soft drink**
   1. Sensory analysis is missed
3. Evln of koseret, thyme and basil eos on **butter rancidity** during storage at different conditions
   1. What about basil??
4. Effects of **drying conditions** on physiochemical properties of selected herbs
5. Isolation & xzn of protein from **bitter lupin**
   1. 12.5% is that protein composition?
6. Devlt and optimizan of **Sugo**
7. Dev’t of natural preservatives for **meat and cheese**
   1. Rosemary, basil, thyme and oregano
8. Dev’t and evln of antimicrobial base **nano encapsulated Eos coated packaging material** for injera and avocado
9. Devlt …?

MAP

1. Devt of **flavoring products** from selected herbs

* No progress report is presented

1. Evln of eos **compositn**, **antioxidant** and **antimicrobial** properties of selected herbs grown at WG

NEW

1. Exploring post distillation herbal residue as potential sources of phenocc extracts with avocado seed stafrch for bioplastic film development
   1. Xzing eo leftover
   2. Isoln and xzn of avocado seed starch
2. Development of bioplastic
3. Development and evaluation of **solar dryer** for herbal products
   1. Having different solar dryer as a treatment should be an option
4. Quality cxn of orange fleshed sweet potato varieites flours pretreatd and dried using differtne method
   1. Antioxidant properties?
5. Formln and promontion of health benefit beverage in Ethiopia
   1. Are they compatible? How is the formulation will be?.
   2. Opontia (cactus + rosell)
6. Formn and optimzn of frsh green maize flour based enhanced foods for children under the age of five
   1. Which part will you use ?
   2. Moringa and amarantus
7. Evln of storage stability of herbal products developed at WG

Butric acid need to be measured?

Biotechnology

Dr. Aynalem

4 C + 2O + 2 new

**Ongoing**

1. Optimxz an efft protocol for invirtro progn of **rosemary** through nodal xplant
   1. What is its d/ce from Dr. Zewudinehs research?
2. Invitro callus formn for the prodn of **secondary metabolites** from **rosemary** plant
   1. What are the important metabolized?

**Completed**

1. Invitro protocol optimzn for mass propagaton of **lemongrass** through shoot tip culture
   1. Where is the result? Acclamitized already?
2. Molecular and chemical diversity of Ethiopn **koseret** landraces
   1. What will be the next step?
3. Genetic and chemical **charazn of rue accessing** collected from di/t farts of Ethiopa
4. Genetic diversity and GWAS of **roselle accessions** under d/t moisture stress condn of Ethiopia

Have you proved robustness of your method?

**New research**

1. Invitro mass propagation and utilizn of selected economically important crop **lemon verbena**
   1. **This is not a research ?**
2. Invitro protocol optimizn for *Aloe pulchane* and *A. ankoberensis*???
   1. What about the activity and result of Tsion

Q & A

What was the success story, not clear

What about coffee tissue culture, why not presented?

Why lemon verbena, was there any problem

Aloe is not released so far…?

What software did you use to determine PCA? Is that R software?

Researchable gap not clear?

Dr. Tesfaye

Technology Multn

* 28 activities

Completed

1. Effec of grwong condn and stem cutting ages on lemon vebana seedling prodn
   1. How do you classify cutting ages? Is that okay to have before and after flowering?
   2. Can you
2. Assessment on farm’s haricot bean seed mangt and its contrn for quality seed prdn in Silte zone

Ongoing

1. Partcipatory onfarm coffee nursery estmn and seedling ppn

New

1. Effect of cova planting and mineral fertilzr application on seed quality and yield of coffee

* Koti varieity
* Four levels of fertilizer (4 levels)
* # of seedlings (3 levels)
  + How are you going to measure Suspended seed/
  + Normal seed/

1. Participatory of famr avocado in Gedio zone (grafting): Wonago + Dilla

Reinitiated

1. Community based seed multpn and scaling up of improved potato technologies at West Arsi Zone

COFFEE ACTIVITY (FSRP)

1. Enhancing coffee formal seed system in Southern region, Ethiopia
   1. What do you mean?

Challenge

* Coffee seed shade?
* Laboratory equipment
* Shortage of budget
* Farm machinery
* Seed preparation room maintenance

Seed multiplication New

1. Multipn of hybrid coffee seedlings by cutting
   1. Rori + Awada ?? varieiteis
   2. Which protocol are you going to use? Is there any released: no reference

Ato. Shiferaw Mekonnen (Pathology)

Plant protection

Ano W.

* 6 research
* 28 activities (12 path )

1. On farm evln of potato bacterial wilt management
   1. It is a varietal study? Where is the wilt management experiment
2. Aloe accessions (4 promosing )
3. Screening of promising coffee accessions
4. Evln of Guji coffee collns for major coffee diseases
5. Evln of west guji coffee colln for major coffee diseases
6. Assessment of the current status of major coffee diseases
7. Survy on hot pepper wilt complex in
   1. Picture taking ??? better focus on the …
   2. Disease incidence
   3. What measures did they take at Hawassa? What
8. Assessing economically … avocado
9. Validatn of maize lethal necrosis management practices (collaborative)

**NEW**

1. Evln of broad adptn coffee varieites for major diseases
   1. Is this a separate activity? DUS (stability)
2. Assing economically important diseases on banana crop in SE
3. Evlng integrated management method against hot pepper wilt complex disease in SE
   1. Fuzarium (*Fusarium oxysporum*)
   2. Phytoptera (*Phytophthora capsici*)
   3. Bacterial wilt (*Ralstonia solanacearum*)
      1. Is this a pot experiment?
      2. How do you create the complex and how are you going to tell us to which ?
      3. Alaba, Silte, … ?

**Banchiamlak Nigussie Tefera**

**Entomology**

**1 cA + 3og + 1N+3FSRP**

COMPLETED

1. Evln of d/t attractant baited traps for monitoring of fall armyworm moth in maize plant
   1. Trap + Fish soup
   2. Trap + Banana juice
   3. Trap + Honey tej
   4. Trap + Barley beer
   5. Trap + Alcohol
   6. Trap + Ethanol
   7. Trap + All mixture
   8. Trap + Water (control)
      1. No Fall armyworm moth in the trap in both years ???

Ongoing

1. Screening of ethopian rue accessions against rue aphid under field condition
2. Efficacy of medicinal plants against maize weevil under room storage condition
3. Efficacy of black cumin eo against weevil on two bread wheat varieites under room storage condition

FSP

Ongoing

1. Popln dynamics and management of the newly emerged avocado persea mite, oligonychus perseae in Ethiopia
2. Assessment and mgt of insect pest in irrigated and main season wheat prodn
3. Populn dynamics and determin of wheat yield loss caused by the Russia wheat aphics under irrigated wheat prodn

NEW

1. Survey on occurrence and distn of coffee berry moth and other coffee insect pests in SE
2. Evln of borad adaptn coffee varieity for major insect pest tolerance

ONGOING

* + 1. Intron and evln of FAW resistant/ tolerant maize hybrids for their adptn and resistance against FAW in South Rift valley of Ethiopia

**WEED**

**Yigermal**

**To be completed**

1. Integrated mgt of sweet basil weed
   1. Tillage practice and weed management practice on yield and yield parameter (are they different activities)?
2. Integrated mgn of weed on chamobile plnat in SE
3. Integrated mgt of weeds on roselle in SE
4. Valdn and demonstraton of desmodium mgt for efficient weed control

Reinitiated

1. Assessmt and idntfn of weed flowra associated to prioritiezed MAP in Ethiop
2. Detn of rosemary ???