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Effects of farm yard manure application on weed control and yield in marigold (*Calendula officinalis*)- mungbean (*Vignia radiata*) intercropping

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ABSTRACT

In this study, the effect of manure and various combinations of marigold marigold and mungbean intercropping was examined on the grain yield, weed control and the nutrients concentration in the marigold plants. The experimental design was a split plot with three different amounts of manure (0, 15 and 30 t ha-1) comprising the main treatments, and five combination of intercropping (sole marigold and mungbean, combinations of 100% marigold + 15% marigold, 100% marigold + 30% marigold, 100% marigold+45% marigold) as sub-treatments that were applied with three replications. The experiment was conducted in 2010 at the Zabol University research farm in Zabol, south Iran. Manure, intercropping and interactions between them significantly influenced the grain yield of both crops. The greatest grain yield in mungbean was observed in combination of 100% marigold + 30% mungbean along with application of 30 t manure ha-1. The combination of 100% marigold + 45% mungbean had the greatest absorption of radiation. Intercropping of marigold and mungbean controlled weeds better than sole culture. Combinations of 100%marigold+45%mungbean and 100% marigold + 15% mungbean along with application of 30 t manure ha-1 exhibited the greatest N and K in grains of marigold, respectively.

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INTRODUCTION

One of way solving the proposed for difficulties from systems agriculture modern increase diversity systems production with add number species herbal (Asgharipour, *et al*., 2012). Resources system of such light, water and ingredients food at cultivation mixture, that cultivation simultaneously two or several species herbal at one piece ground is to manner effectively absorption and to biomass herbal conversion (Asgharipour and Armin, 2010). This result Differences At Ability Competition For Factors Rushdie Between Components Mixed Is (Asgharipour and Rafiei, 2010). This Thereto Meaning Is That Components Mixed At Nych Ecological Uniformity With Both Competition Do not And Competition Between Species For One Agent Given Weaker Of Competition Inside Species Is (Van der Werf and HMG., 1997). Use Efficient Of Resources Growth At Gain To System Agriculture Stable Role Fundamental There.

The main Role Legume At Systems Agriculture Ability It For Consolidation Nitrogen Atmospheric Production Seeds Rich Of Proteins And Role It At Diversity Partial To Patterns Cultivation Continuous Grain 's. But Worry Major Production Visitors Legume At Systems Agriculture Low Input Ability Competitive Low It With Weed Weed Is (Liebman and Dyck, 1993). Cultivation Mixed Legume - cereal Of Way The mechanism Regulation Natural Competitive Need To Fertilizer The Reduces And Management The grass Weed With Use Less Of Grass Herbicides The Makes possible.

Product Marigold And Mash At Length Period Growth Ingredients Food Large Of The Of Soil Alluring And If Soil To Form Correct Fertilizer Overall Not Ingredients Can food Limited The Growth They Be. So Preservation Fertility Soil For Production Stable Of Way Fertilizing Appropriate Necessary 's. Nowadays To Purpose Reduction Effects Ill Consumption The inputs The chemical can be Fertilizers Chemical The With Consumption Fertilizers Life Of Sentence Fertilizers Animal, Compost And Fertilizer Green Alternative The (Ghosh, *et al*., 2004). At area study fertilizer animal to convenience at access. Fertilizer animal in addition, Add And At Access Be Give A total of Of Ingredients Food Full Consumption (N, P, K, Ca, Mg, S) and Low Consumption (Cu, Fe, Mn, B), With Improvement Building Soil And The With Increase Capacity Maintenance Moisture Cause Creation Bed Appropriate The Growth Better Root And Search It Increase Growth SPAD Plants Is (Ghosh, *et al*., 2004).

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Studies Slightly At About Check Effects Consumption Fertilizer Animal On Different aspects of intercropping is done. Therefore this study aimed to assess the relative Planting and levels of daisies and mung bean manure additive intercropping on yield, weed community structure index of chlorophyll and absorption of photosynthetic active radiation was administered.

MATERIALS AND METHODS

This Experiment At Year 1389, At Farm Research Research Agriculture University Zabul (W Geographic 61 Degree And 2 of 9 Min North And Length Geographic 31 Degree And 2 Min East And Height 450 Meter Of Level Sea) Implementation Were. This Area At Height 481 Meter Of Level Sea Be There. Water And Weather Area On Basis Class Category Coupon Component Climate The Dry And Very Hot With Summer The Hot And Dry The Be. On Basis Statistics Station Weather Zahak Average Long Term (30 Year) Rainfall At Area 63 Mm, Rate Evaporation Annual To Manner Average 5000-4500 Mm, The Be. Dirt Location Experiment Loam - Sandy, And Year Ago Of Experiment Farm Under Cultivation Plants Kitchen garden Be Found. At Table 1 Some Of Specifications Physical And Chemical Soil Show Data By 's.

Table 1: Physico-Chemical characteristicsof studied soil.

Name Index	pH	EC (DS m $^{-1)}$	Calcium (ppm)	Potassium (Ppm)	Nitrogen (ppm)	Phosphorus (ppm)	Clay	Silt	Sand	Tissue Soil
							(%)			
Amount Index	9.7	2.8	6.11	247	87.4	09.0	12	18	70	Loam Sandy

At This Experiment 15 Treatment Or Plan Plots Wisdom By At Format Block Full Random At Three Repeat B Work From Will. Plots Main Included Three Level Fertilizer Animal Of Origin Cow To Rate Zero, 15 And 30 Ton At Hectare And Plots Sub- Ratio The Different Implant Included Cultivation Net Mash (100 Percent Mung), Cultivation Net Marigold (100 Percent Calendula), 100 Percent Marigold + 15 Percent Mung bean, 100 Percent Marigold + 30 Percent Mash And 100 Percent Marigold + 45 Percent Mash Were. Specifications Fertilizer Animal And Density Ingredients Food Available At It At Table 2 Offer By 's.

Plots Experiment New Dimension 3 At 3 Meter Were. Plants Marigold At Cultivation Net On either side of the ridge with Distance Between Row 75 Cm Meter And Distance On Row 8 Cm Meter Planted Were That Density 320 Thousand Bush At Hectare The Result Said. Also Mash In Cultivation Net On either side of the ridge with row spacing 75 Cm and the distance On Row 20 Cm Meter Planted Were That Density 135 Thousand Bush At Hectare The Result Said. At Treatments Additive Marigold To Title Plant Main At Density Favorable 320 Thousand Bush At Hectare To Along 15, 30 And 45 Percent Density Favorable Mash Planted Will. Each Two Product At Stage 3 4 Foliaceous For Get To Density Favorable Sparse Were.

Table 2: Animal manure chatacteristics.

pH	Ratio C: N	N	P	K	Mn	Cu	Zn	Fe
		(%)	mg kg $^{-1}$					
23.8	14.13	72.0	25.2476	65.765	87.76	65.3	62.32	38.541

Radiation Active Photosynthesis [1] (PAR) 30 Day Then Of Green Be And With Use Of Device Like Scan (Model DELTA-T DEVICES Construction America) At Distance Hours 10-12 Size Conclusion The round (Tavassoli, *et al*., 2010). Percent Absorption Radiation Active Photosynthesis On Basis Formula The following Calculation Was (Bantilan, *et al*., 1976).

PAR_b = Light Active Photosynthesis At Low Crown Cover And PAR_a = Light Active Photosynthesis At Level Crown Cover

Amount Relative SPAD Or Chlorophyll Leaf Development Results To Form Indirect And Without Creation Destruction At Leaves, With Use Of Device SPAD Or Chlorophyll M and At Three Times (25, 50 and 75 days after planting) to determine Will. To The Order, Of Each Plots 20 Leaf Of Each Species At Location Similar (Leaves Top Canopy) At On The plant Different Choice And Of Chlorophyll They With Use Of Device Above Determine Was And Eventually Mean The Numbers To Title Number Chlorophyll Meter Related To It Plots And The Stage Registration Was (Asgharipour and Heidari, 2011).

The Size Conclusion Weight Dry Grass Of Weeds, At Time Removal Final Plant Marigold And Mash With Elimination Effect Margin Of Level 2 Meter Square At Each Crete Sample Conclusion Performance And Weight Was And For Calculation Weight Dry Grass Of Weed On Terms Separation Species To The Form Was The Three Species Dominant Farm The Camel's thorn (*Alhagi psuedalhagi*), Avyarslam (*Cypru s rotundus*) And Bonnie (*Aleropus litoralis*) To Addition The remaining Grass Of Weed To Title Group Fourth Separate By Sample A Of Each What To Weight 100 Hot Choice By And At Avon Electrical At Temperature 70 Degree C C To Term 48 Time Dry Was And Then To Weight Total Each Treatment Generalization Data Will.

At Sample Vector To Purpose Determination Operation Seed Marigold And Mash At Stage Handling Physiological Of Crete The Test With Elimination Effect Margin Of Level 2 Meter Square At Each Crete

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Sample Conclusion Performance Will. For Size Making Ingredients At Feed And Seed Marigold Sample Of Dry By That Included Feed And Seed Were To Laboratory Transferred And Then Of Mill The Rate N, K, Sodium And Calcium They Determine Was.

The Size Conclusion Nitrogen and shoot Of Method Kjldal And The Size Conclusion K, Sodium And Calcium Of Method Digestion Burning Dry And Combination With Acid Hydrochloric 2 Percent Normal Use S d. At The Method Two Hot Of Each Sample At Bush Chinese Pour By And At Furnace Electrical In 5 Time At Temperature 450 Degree C Burned Will. Then Of Cooling Being 10 MM L Acid Hydrochloric 2.0 Normal To They Addition And At Bathroom Blue At Temperature 80 Degree C Hold Have Was Until First Steam White Of They Out Be. Contents Inside Bush Chinese The Of Paper Filter Crossing And At Dirigible Zhvzhh To Volume 100 MM L Have And At Finally With Use Of Device Spectrophotometer Density Ingredients Measurement Was . To calculate the amount of each component adsorbed per kg of dry matter per hectare of seed treatments (kg per hectare) was multiplied by the percentage of that element in the seeds or shoots.

To Purpose Determination Some Specifications Chemical And Physical Soil Of Depth Zero Until 30 Cm Of Crete The Different Ago Of Implant Sample Making Performance Were. Sample The Soil To Instrument Envelope To Laboratory Transferred And Then Parameters Case View Size Making Will.

The relative benefits of intercropping compared with sole crop mix for each component using land equivalent ratio [2] (LER) Was calculated. LER index was calculated using the following equation (18).

In this equation, Y_{im} And $Y_{s\ m}$ The yield on intercropping and monoculture agricultural and Y_{if} And Y_{sf} The yield on intercropping and monoculture was always spring.

Decomposition And Analysis Statistics Data And cutting of interactions with software SAS And Comparison With Use Of Test Least significant difference [3] (LSD) In the Probability 5 Percent Comparison Will.

RESULTS AND DISCUSSION

Operation Seed Marigold And Mash:

Effect Levels Different Fertilizer The animals, Ratio The Implant And Effect Mutual It News On Operation Seed And Feed Dry Marigold And Mash At Level One Percent Significant Was (Table 3). Top Functions Seed And Feed Dry Marigold Respectively Equal With 3.875 And 1966 Kg At Hectare Of Treatments 30 Percent Mash + 100 Percent Marigold Along With Consumption 30 Ton At Hectare Fertilizer Animal By Respectively, That This Treatment With Other Treatments Difference Meaning Do Was (Table 4). At Mash Maximum Operation Seed And Feed Dry B Order Equal With 9.544 And 1427 kg At Hectare Of Treatment Cultivation Net Mash Along With Consumption 30 Ton At Hectare Fertilizer Animal By Was That This Treatment With Other Treatments Difference Meaning Do Was (Table 4).

Table 3: Analysis of variance for forage yield and grain yield of daisies and mung bean.

Sources changes	Degrees of freedom		Mean-square		
		Yield	Yield	Yield	Yield
Repeat	2	94.1152	013.354	87.56455	6.14211
Fertilizer	2	* 59.71526	* 924.9259	* 6.1303496	* 7.496803
The main mistake	4	17.90 1	363.721	3.3748	75.25180
Than planting	4	* 77.2025461	* 7.294696	* 4.3756094	* 4.2058607
× fertilizer per plant	8	* 91.8629	* 92.1650	* 16.94095	* 9.281298
Wrong sub-	24	73.1252	001.332	45.17085	6.3186
Coefficient of Variation (%)	-	18.5	28.8	36.11	27.13

Ns, * and ** id lack existence difference there with and there with At Level 5 and 1 percent The Is

Table 4: Comparison Average Separate Ratio The Different At each level of manure for crop Feed Dry And Operation Seed At Marigold And Mash.

Traits Treatment	Operation Feed At Marigold (kg . ha)	Operation Seed At Marigold (kg . ha)	Operation Feed At Mung bean (kg . ha)	Operation Seed At Mash (kg . ha)
Lack Actions Fertilizer Animal				
Cultivation Net Marigold	a 2.923	a 4.289	-	-
Cultivation Net Mash	-	-	a 1160	a 6.430
15% Mung bean + 100% Marigold	a 1100	a 4.336	d 2.492	d 8.129
30% Mash + 100% Marigold	a 10 of 99	a 4.348	c 8.673	f c 2.173
45% Mash + 100% Marigold	a 1124	a 8.298	b 8.812	b 2.253
15 Ton At Hectare Fertilizer Animal				
Cultivation Net Marigold	a 1442	a 4.524	-	-
Cultivation Net Mash	-	-	a 1269	a 3.505
15% Mung bean + 100% Marigold	a 1387	a 1.491	d 6.521	c 4.156

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30% Mash + 100% Marigold	a 1518	a 495	c 8.698	c 172
45% Mash + 100% Marigold	a 1482	a 5.498	b 2.873	b 4.248
30 Ton At Hectare Fertilizer Animal				
Cultivation Net Marigold	a 1757	b 6.706	-	-
Cultivation Net Mash	-	-	a 1427	a 9.544
15% Mung bean + 100% Marigold	a 1730	a b 8.764	d 8.552	c 4.184
30% Mash + 100% Marigold	a 1966	a 3.875	c 6.813	c 3.201
45% Mash + 100% Marigold	a 1737	b 743	b 4.990	b 4.302

Letters Similar At Each Column And the manure surface marker Lack Difference Meaning With At Level 5 Percent On Basis Test LSD Be.

Above Be Operation Seed Marigold At Treatment 30 Percent Mash + 100 Percent Always Spring Show Existence of positive reciprocity between the spring and the car is always in the mix., Also means that the intensity of the negative relationship between a species that is less than the relationships within the diversity and possibly in the mix for is the pure Avoiding competition with resource allocation has been made. Results Result Of This Experiment With Results A study At About Check Values Different Fertilizer Animal And Chemical At Cultivation Mixed Marigold And Beans Red, That Application Fertilizer Animal Cause Increase Increase Operation Seed At Each Two Plant By Is Correspondence Is (Samarajeewa, *et al*., 2006).

Concentration and Uptake At Seed Marigold:

Results Analysis Variance Show The, The Density K, Sodium And Nitrogen At Seed Marigold To Manner Meaning Do Under Effect Levels Different Fertilizer Livestock, Ratio Implant And Effect Mutual It News Be , The But Density Calcium Only Under Effect Levels Different Fertilizer Animal And Ratio The Implant Be Was (Table 5). Maximum Concentration and absorption Calcium Of Cultivation Net Marigold By Was (Tables 6 And 7). The higher the calcium concentration in pure culture than planting marigold The mixture is Marigold plant and machine can compete to attract these elements attributed to the machine (and generally dark plants Lgvmynvz·h) due to cation exchange capacity of plant roots more than ever Spring (And other grains) in the uptake of divalent metals such as calcium, are more competitive (Ganbari and Lee, 2002), With an increase of Planting and manure application on soil nitrogen and potassium uptake, resulting in its accumulation in the grain amaranth and increase the absorption rate of sodium function has declined.

Table 5: Analysis of variance concentration of calcium, potassium, sodium and nitrogen in grain and forage Marigold.

					Average				
				Seed			Feed		
Sources changes	Degree Freedom	Calcium	Potassium	Sodium	Nitrogen	Calcium	Potassium	Sodium	Nitrogen
Repeat	2	17.0	6.102	15.4	9.3	18.3	61.370	06.28	79.1
Fertilizer	2	* 49.0	* 9.436	* 21	* 3.20	ns 17.1	* 4.2685	* 2.254	* 8.106
The main mistake	4	08.0	6.40	99.0	19.0	47.0	04.77	77.4	26.1
Than planting	4	* 69.3	* 9.16610	* 5.62	* 5.85	* 06.26	* 2.11655	* 5.2294	* 4.694
× fertilizer per plant	8	ns 10.0	* 01.104	* 5.1	* 35.1	ns 24.0	* 4.227	* 09.19	* 14.7
Wrong sub-	24	05.0	9.31	25.0	202.0	32.0	1.101	76.5	04.1
Coefficient of Variation (%)	-	49.19	36.7	78.10	18.8	84.18	95.4	46.8	48.6

ns * And * The Order Lack Existence Difference There With And There With At Level 5 and 1 percent The Be**.**

Table 6: Comparison Average Separate Ratio The Different Implant At Each Level Fertilizer Animal For percent Absorption Nitrogen, Sodium And Potassium At Seed And Feed Marigold.

			Seed				Feed	
Traits	Calcium (ppm)	Potassium (ppm)	Sodium (ppm)	Nitrogen (ppm)	Calcium (ppm)	Potassium (ppm)	Sodium (ppm)	Nitrogen (ppm)
Treatment								
Lack Actions Fertilizer Animal								
Cultivation Net Marigold	b 77.1	a 9.83	a 17.8	c 31.16	33.4	a 1.243	a 47.45	a 87.4
Cultivation Net Mash	-	-	-	-	-	-	-	-
15% Mung bean + 100% Marigold	c 47.1	a 03.88	ab 37.7	c 55.16	bc 83.3	a 6.227	a 57.39	a 21.5
30% Mash + 100% Marigold	d 37.1	a 43.91	b 03.7	c 03.16	b 03.4	a 1.234	a 53.38	a 42.5
45% Mash + 100% Marigold	a 97.1	a 83.90	ab 4.7	c 21.16	d 57.3	a 7.240	a 57.40	a 8.5
15 Ton At Hectare Fertilizer Animal								
Cultivation Net Marigold	de 23.1	a 5.100	a 87.5	b 81.18	d 47.3	a 6.270	a 63.36	c 71.6
Cultivation Net Mash	-	-	-	-	-	-	-	-
15% Mung bean + 100% Marigold	e 17.1	a 6.98	ab 98.4	b 45.19	d 37.3	b 0.246	a 97.33	b c 99.6

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30% Mash + 100% Marigold	e 07.1	a 37.93	b 87.4	b 44.19	d 33.3	ab 5.257	a 9 3.33	a 44.7
45% Mash + 100% Marigold	d 37.1	a 57.97	b 87.4	b 25.20	d 3.3	ab 6.250	a 4.33	ab 18.7
30 Ton At Hectare Fertilizer Animal								
Cultivation Net Marigold	d 37.1	ab 7.99	a 76.5	a 27.23	a 6.4	a 8.279	a 5.33	a 97.7
Cultivation Net Mash	-	-	-	-	-	-	-	-
15% Mung bean + 100% Marigold	c 6.1	a 6.110	b 7.4	a 68.22	b 2.4	a 3.268	b 73.29	a 27.8
30% Mash + 100% Marigold	f 97.0	ab 2.105	b 66.4	a 79.22	d 47.3	a 8.267	ab 23.31	a 11.8
45% Mash + 100% Marigold	d 33.1	b 57.91	c 97.3	a 43.23	c 73.3	a 6.262	b 07.29	a 48.8

Letters Similar At Each Column And At Each Level Fertilizer Animal Marker Lack Difference Meaning With At Level 5% On Basis Test LSD Be.

The highest uptake of nitrogen, potassium and b respectively ppm 6.110 and ppm 48.8 And the absorption of nutrients from the soil, respectively, with 08.92 And 78.99 M kg ha treatments, 15% and 45% mung bean + 100% + 100% Marigold Marigold associated with the consumption of 30 tons of manure per hectare and the highest rate of treatment uptake and concentration of sodium in pure culture Marigold manure, and without The lowest uptake of treatment, 45% mung bean + 100% always use spring with 30 t ha farmyard manure yielded no significant difference Between the treatments was observed with the other treatments (Tables 6 and 7). Trend in grain amaranth can reduce the amount of sodium absorption Be due to the abundance of potassium and nitrogen levels in soil and plant competition is always spring and machine to absorb these nutrients.'s Review intercropping amaranth and beans (Samarajeewa, *et al*., 2006) and intercropping maize with cucumber (Altieri, 1999) Similar results have been reported.

Table 7: Comparison of the ratio of the average interaction Planting and different levels of manure on calcium absorption, Nitrogen, sodium and potassium in the forage seed and calendula.

Traits			Seed				Feed	
Treatment	Calcium (kg ha $^{-1}$)	Potassium (kg ha $^{-1}$)	Sodium (kg ha $^{-1}$)	Nitrogen (kg ha $^{-1}$)	Calcium (kg ha $^{-1}$)	Potassium (kg ha $^{-1}$)	Sodium (kg ha $^{-1}$)	Nitrogen (kg ha $^{-1}$)
Not applying manure								
Pure cultures of Calendula	ef 13.51	f 28.24	d 36.2	e 59.23	d 01.40	f 43.224	c 98.41	e 48.22
Agricultural monoculture	-							
15% mung bean + 100% marigold	f 34.49	e 61.29	d 48.2	e 84.27	d 17.42	ef 36.250	c 53.43	d 66.28
30% mung bean + 100% marigold	f 61.47	e 85.31	d 44.2	e 87.27	cd 33.44	ef 28.257	c 34.42	d 78.29
45% mung bean + 100% marigold	e 76.58	e 14.27	e 21.1	e 20.24	d 09.40	e 5 5.270	c 60.45	d 60.32
15 t ha farmyard manure								
Pure cultures of Calendula	de 68.64	d 70.52	c 09.3	d 32.49	c 99.49	c 21.390	b 82.52	c 38.48
Agricultural monoculture								
15% mung bean + 100% marigold	e 30.57	d 42.48	d 46.2	d 76.47	cd 70.46	d 20.341	bc 12.47	c 48.48
30% mung bean + 100% marigold	e 80.52	d 23.46	d 43.2	d 11.48	c 60.50	c 89.390	b 51.51	c 47.56
45% mung bean + 100% marigold	d 13.68	d 65.48	d 44.2	d 47.50	c 91.48	cd 39.371	b 50.49	c 20.53
30 t ha farmyard manure								
Pure cultures of Calendula	b 57.96	c 45.70	a 07.4	c 21.82	a 82.80	a 61.491	a 86.58	b 02.70
Agricultural monoculture								
15% mung bean + 100% marigold	a 37.122	b 59.84	b 59.3	bc 80.86	ab 66.72	b 16.464	b 43.51	ab 54.71
30% mung bean + 100% marigold	c 61.84	a 08.92	a 11.4	a 78.99	b 16.68	a 49.526	a 40.61	a 72.79
45% mung bean + 100% marigold	b 07.99	c 06.68	c 97.2	b 93.8 6	b 85.64	b 14.456	b 49.50	ab 65.73

Similar letters in each column indicate no significant differences Significant at 5% level based on test LSD Be.

Concentration and uptake in forage Marigold:

Different levels of manure per Planting and their interaction Have a significant effect A significant level of concentration of sodium, potassium and nitrogen On amaranth forage was The concentration ratio of just under

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different levels of manure The implantation was performed (Table 5). Compared Average fertilizer treatments showed , The highest rate of calcium uptake and concentration of the treated manure was not applied, but the proportion of high calcium levels in forage from treated monoculture planting marigold respectively (unbridle 6, and 7 taken).

Cause Reduction Amount Calcium At Feed Plant Marigold The Could To Reason Reduction Absorption This Element By Root Of Soil Under Conditions Prepared Be Potassium And Nitrogen Soil Be. The highest concentration of Rate Absorption Potassium And Nitrogen Respectively Of Treatments Cultivation Net Marigold And 45 Percent Mash + 100 Percent Marigold Along With Consumption 30 Ton At Hectare Fertilizer Animal And Maximum Rate Concentration and absorption Sodium Of Treatment Cultivation Net Marigold Without Actions Fertilizer Animal And Minimum Rate Absorption It Of Treatment 45 Percent Mash + 100 Percent Marigold Along With Consumption 30 Ton At Hectare Fertilizer Animal By Respectively (tables 6 and 7). At Study Other Specified Was At Cultivation Mixed Marigold And Beans Red Fertilizer Animal Cause Increase Percent Absorption Potassium And Nitrogen At Feed Marigold Is (Samarajeewa, *et al*., 2006).

Index Chlorophyll Leaf At Marigold And Mash:

Effect Levels Different Fertilizer Livestock, Ratio The Implant And Effect Mutual It News On Chlorophyll Index Leaf In all three sampling Marigold And Mash Meaning Do Not (Table 8). With Attention To Table Comparison Average Observation The Be That With Increase Growth Chlorophyll Index At Leaf Increase The Finds. At 75 Day Then Of Green Be Chlorophyll Index Ratio To 50 Day Then Of Green Be At Plant Marigold About Without Change The child But Chlorophyll Index Leaf At Mash Process Ascending The Until Last Stage Sample Making That 75 Day Then Of Green Be Show The (Table 9). This Process Additive At Mash The Could To Reason Growth Unlimited Be This Plant Be. At Research Show Data Was Increase Density Plant At Unit Level Cause Increase Height Bush And Of Chlorophyll Leaf Pea Was (Asgharipour and Armin, 2010). At Pilot On Three Varieties Pea Report Was Increase Of Consumption Seed Of 60 To 80 Kg At Ha Values Chlorophyll At 75 Day Then Of Planting The To Manner There Do Increase The (Jat and Mali, 1992).

Absorption Radiation Active Photosynthesis (PAR):

With Attention To Table 10 Observation The Be Absorption PAR Under Effect Ratio The Implant At Level One Percent Be , The But Effect Levels Different Fertilizer Animal And Effect Mutual This Two Factor On On It Meaning With Absence. Most Rate Radiation Active Photosynthesis Absorption By Related To Treatment 45 Percent Mash + 100 Percent Marigold Was And Between This Treatment With Other Treatments Cultivation Mixed And Cultivation The Net Marigold And Mash Difference Meaning Do Existence Found. Minimum Rate Radiation Absorption By At Treatment Cultivation Net Mash Existence Found. This Process Show Offers That At Steps Primary Growth And Until 30 Day Then Of Green Being Treatment 45 Percent Mash + 100 Percent Marigold Able Is PAR The Range 83 Percent More effective Ratio To Cultivation Net Marigold, Mash And Cultivation The Mixed Absorption To (Table 11). Cause Above Be Absorption Radiation At Canopy Cultivation The Mixed Ratio To Cultivation News Net The Could, Difference At Makeup Horn And Leaf And Form Canopy At Cultures Mixed Be. To Title For example, At Cultivation Mixed Marigold And Mash Optical That By Marigold Absorption Not Be At Down Canopy By Mash Absorption And Cause Increase Efficiency Absorption PAR The Be.

At Study On On Cultivation Mixed Corn And Cucumber Most And Minimum Rate Absorption Radiation To Order At Treatments 100 Percent Corn + 100 Percent Cucumber And Treatment 50 Percent Corn + 50 Percent Cucumber Result Was (Altieri, 1999). Report Been At Cultivation Mixed Wheat And Bean, Radiation Active Photosynthesis With Performance More Ratio To Cultivation Net Absorption It is, Why That Radiation Solar That Possible Is To Mind Growth Low Wheat At Top Season And Senescence Bean At End Season To Heather River Could With Cultivation Mixed Wheat And Bean With Performance More Case Use Be Is (Ganbari and Lee, 2002).

Weight Dry Grass Of Weed:

Levels Different Fertilizer Animal And Ratio The Implant Effect Meaning Do On Weight Dry Weed Weed Camel thorn, Bonnie, Other Species And Total Grass The Weed Was But Effect Mutual This Factors Effect Meaning Do On Weight Wet And Dry This Grass The Weed Had not (Table 10). At This Experiment Avyarslam Only Under Effect Ratio The Implant Be Were. With Attention To Table Comparison Mean Observation The Be Treatments Increase Cultivation Mixed Of View Control Grass Weed With Both Difference There Do Have And Treatment 45 Percent Mash + 100 Percent Always spring due to more absorption of photosynthetically active radiation (Table 9), and more complete coverage of the earth, was able Is Reduction More The At Weight Grass The Weed Creation The (Table 11). Of View Levels Different Fertilizer Animal Minimum Weight Total Grass The Weed Related To Treatment 30 Ton At Hectare Fertilizer Animal Be.

At Between Ratio The Planting, Minimum Weight Dry Total Grass The Weed Equal With 7.38 Hot At Meter Square And Related To Treatment 45 Percent Mash + 100 Percent Marigold The Is (Table 11). Less Be

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Weight Weed Weed Could, To Density High Two Species And Shadow Setting On On Grass The Weed That Cause Reduction Growth They The Be Ratio Data Be. Most Amount Weight Total Grass The Weed Related To Treatment Cultivation Net Mash To Cause Density Down It The Be. At Between Grass The Weed Most And Minimum Weight B Order Related To Camel's thorn And Avyarslam Was That At Treatments Cultivation Net Mash And 45 Percent Mash + 100 Percent Marigold Result Will. The To Results Result The Power Said Cultivation Mixed At Control Grass The Weed Particular Grass Weed Avyarslam Successful Action Have 's.

At Check Cultivation Mixed Mung bean And Atmosphere Report Was Cultivation Mixed Ratio To Cultivation Net The Effective Density Weed Weed At Farm The Reduction The Will (1). At Study Other On On Cultivation Mixed Corn And Zucchini Report S De- Cultivation Mixed To Rate 41 Percent More Of Cultivation Net Cause Reduction Grass The Weed The Be (3). Report Was Culture Mixed Atmosphere And Bean, Increase Operation At Cultivation Mixed Ratio To Single Ship Two Plant To Reason Control Better Grass The Weed At Cultivation Mixed Form From Is (6). Also At Cultivation Mixed Marigold To Title Plant Along With Soybean Report Was That Marigold To Cause Power Claw Woman Top Able Is Of Growth Grass Of Weed To Manner Eye Conclusion Prevention To Action Will And At Reduction Population They Effective Is (Mir, *et al*., 2011).

Equal proportion of the land surface (LER) Based on yield and forage Daisies and mung bean:

Based on the results of the bulk-like values of humankind LER Under the effect of Different levels and manure than The planting Was (Table 12). Comparison table shows, LER In general the treatment of B-mixed than the unit's Be d. Most of the land is not equal for both grain and forage plants, respectively 56.1 And 77.1 Treatment and 45% mung bean + 100% amaranth obtained show that the most beneficial provider intercropping than sole crop of daisies and mung bean M Is (Table 13.) These increases are due to the Tsb can power an d Oh by the G legume nitrogen in the soil further improve conditions suitable environment Than for the other components of the mixture and also the difference in the system will The needs of the individual and the morphology of one of the following Vlvzh one Components of the mixture is blended and absorb more radiation treatments. These differences make maximum use of environmental resources and ultimately increase production efficiency Be. Probably due to higher productivity and land equivalent ratio in the treatment of 45% mung bean + 100% of the maximum absorption of radiation in the treatment (Table 9). Reported in intercropping of wheat and cotton blend, 65% cotton + 35% compared to the higher yield of wheat (39.1 LER = Respectively) of the two strategies is the single culture. (Willey, 1979) compared the effect of animal manure Of sowing on the increase LER Forage and grain amaranth and red bean intercropping similar to the results of the report have been (Agegnnehu, *et al*., 2007).

Conclusion:

The results showed that agricultural product is compatible with daisies in mixed cultures as increasing mung bean planted in rows to increase the daisies growing on the production of additional MUNGBEAN seed and forage yield the marigold increased. Greatest performance marigold planting marigold, with 30% of the desired density and mung bean yield of pure cultures were obtained. Amounts of land equivalent ratio showed a growing source of LER 39 Up to 77 percent more efficient than pure cultures are used.

Grain and forage yield of mixed marigold 45% mung bean + 100%, respectively. Absorption of nutrients from the soil and concentrations in pure cultures and mixed cultures of Calendula Calendula and mung bean was lower than in monoculture. Weed growth by mixing treatments compared monoculture and mixed cultures of daisies and mung bean reduced weed growth and final biomass decreased to 27%. In between treatments, 45% mung bean + 100% increase in mixed calendula is an effective control of weeds. Doses of 15 and 30 tons of manure per hectare due to supply nutrients and improve soil conditions result in high yield and increase the amount of nutrients in grain. The results show that combining grains and proper management of nutrients can lead to the design of cropping systems and weed suppression ability and therefore less need to use herbicides to Vabstky. Furthermore, mixed cultures of other ecological services, such as reducing the risk of crop failure, farmers diversify income sources, increase soil organic matter and reduce the need for herbicide provides that to determine benefits for farmers in need further evaluation INTERCROPPING there.

The results showed that intercropping mung bean and daisies can be used as an economically efficient system for the production of forage and grain amaranth and Introduction portion of the performance car may be useful.

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