© 2011, Scienceline Publication

Online Journal of Animal and Feed Research

Volume 2, Issue 3: 277-282 (2012) *ISSN 2228-7701*

MARKETTING SITUATIONS OF LIVESTOCK FEEDS IN WELMERA AND DENDI WEREDA OF WEST SHOA ZONE, ETHIOPIA

R. MESFIN, A. TESFAYE

Ethiopian Institute of Agricultural Research, Holetta Research Center,

*E-mail: Y_takele@yahoo.com

ABSTRACT: *The paper explains the status of livestock feed resources and market situations in Welmera and Dendi weredas of West Shoa Zone, Ethiopia. The objective of the survey was to assess the potentials and constraints of feed resources and related marketing practices and suggest appropriate intervention options to overcome the constraints. Majority (76%) of the interviewed farmers have faced shortage of livestock feeds. The diminishing trend of grazing land from time to time, roughage, concentrate feeds are the factors contributing to feed shortage. Moreover, the increasing trend in selling price of hay and concentrate feeds aggravates more to the problem. This situation is limiting livestock productiv in the highlands of Ethiopia. Under this condition, farmers purchase feeds to both local and crossbred animals. The purchased feeds include: hay, straw, grazing area, oilseed cakes, wheat bran and wet grass. Among these, the grazing area purchased takes the highest (52%) proportion. Farmers and traders participate in purchasing of livestock feeds. The proportion of farmers that purchase feeds is higher (30%) than that of the traders (1%). To alleviate the problems related to shortage of livestock feeds and decline of animal production and productivity, rearing of improved crossbred dairy cattle under intensive management and forage/fodder development and feeds conservation schemes should be promoted in a wider scale. Considering the ever-increasing price of feeds, there is a need to shift from purchased commercial feeds to the use of farm produced feed resources.*

Key words: *Farmers, Grazing Land, Roughage, Concentrate Improved Forage*

ORIGINAL ARTICLE

INTRODUCTION

Agriculture in Ethiopia is indispensable component of rural livelihoods. Livestock has direct contribution to human food, draft power and, manure. Market oriented livestock production contributes to income generation, economic stability and serves for securing foreign currency (Mirjam, 1998). Moreover, the pastoral community depends entirely on livestock for their livelihood (Little et al., 2001; Barret et al., 2003).

Though, the country has great potential for increasing livestock production, both for local use and export market, expansion was constrained by in adequate nutrition. Feed is the most important input and is an essential prerequisite for sustained livestock production. Livestock feeding in Ethiopia is based on grazing mainly on natural pasture and fallow lands which accounted close to 26,601606 tones DM. This is augmented with feeding crop residues, which estimated to 31,300,146 tones. Stubble grazing following crop harvest also accounts for about 22% of the total feed supply (CSA, 2001). Due to the rapidly increasing human population and expansion of cropping in to grazing areas, the importance of natural pasture and fallow land as source of feed is decreasing from time to (Adugna, 2009). In the Ethiopian highlands, the feed requirement of indigenous livestock population is estimated to be 55 million tons of dry matter (DM). This is much higher than what is available in the real situation, which is estimated to be 40.1 million tons DM (Betre, 2000).

There is seasonal variation in feed availability and quality. During dry season, livestock feed is in short supply and is also of poor quality. During this, residues from cereals are the main source of roughage, which are low in protein and poor digestibility (Alemayehu, 2002; Tessema et al., 2002; Tesfaye et al., 2009).

Feed has become a marketable commodity in different parts of the country, particularly around towns and big cities. The type of feeds marketed in different places is very diverse and in most cases include roughage and concentrate (Adugna, 2009). Attractive market and marketing system determines the development of animal agriculture and encourage producers to produce more. The existing production and marketing of livestock feed can be improved through implementation of appropriate interventions through designing appropriate research strategy. Assessment of the situation and dynamism of livestock feeds system and analysis of critical constraint is important to point out problems of farmers, the opportunities that exist within the farming system and to design relevant

To cite this paper: Mesfin R., Tesfaye A. 2012. Marketting situations of livestock feeds in Welmera and Dendi Wereda of west Shoa zone, Ethiopia. *Online J. Anim. Feed Res.*, 2(3): 277-282.
Scienceline/Journal homepages: http://www.science-line.com/index/; http://www.ojafr.ir

research strategy. The objectives of this study was therefore to assess the marketing practices of livestock feed resources, to identify constraints and opportunities related to marketing of livestock feeds and to suggest appropriate intervention options to overcome the constraints.

MATERIALS AND METHODS

Place of the study

The study was carried out in two weredas namely, Welmera and Dendi. Welmera wereda is located in Oromiya region, West Shoa Zone along the Addis Ababa-Ambo road about 40 km West of Addis Ababa. Geographically the wereda is situated between 09^0 03' latitude 38^0 30' longitudes. The altitude of the wereda ranges from 2060 to 3380 m.a.s.l. The rainfall pattern of the wereda follows a pattern of bi-modal. Most of the rain falls during the main rainy season (June to September). Short rains (Belg) commence from January to February and extend up to May.

Dendi wereda is similarly located in Oromiya region, West Shoa Zone along the Addis Ababa-Ambo road about 70 km west of Addis Ababa. The altitude ranges from 1500 to 3270 m.a.s.l. The place is experienced bimodal rainfall: the short rainy season is during March and April followed by long rainy season during June to September. Annual rainfall ranges from 0.7 – 265 mm, in the upper and lower Kola. The dominant soil type is black soil (vertisol).

Respondents

The interview was carried out on a total of 228 farmers in Welmera and Dendi Weredas. Eighty farmers were interviewed from Welmera and the rest (148) of them were from Dendi wereda.

Method of data collection and analysis

Data was collected based on a survey using questionnaires. Farmers were systematically interviewed based on the prepared questionnaire. The collected data was organized and analyzed using (SPSS, 2003). Qualitative data were analyzed based on descriptive statistics and the quantitative data were analyzed using comparison of means and t-test.

RESULTS AND DISCUSSIONS

Marketing of animal feeds and grazing area

Majority (60%) of the interviewed farmers in both weredas reported that they purchase animal feed (Table 1). The interviewed farmers purchase all types of feeds. The feeds purchased include hay, straw, grazing area, oil seed cakes, wheat bran and wet grass. Majority (51.6%) of the interviewed farmers mainly purchase grazing area. Oil seedcakes were the second major (30.7%) type of feed that farmers have been purchasing to feed their animals. Were as, wheat bran was ranked the third (18.5%). Commercial feed (concentrate) are either less available or too costly to farmers. However, minor (3.5%) proportion of the interviewed farmers purchases straw. Farmers have the access of owing crop residues because they cultivate food crops every year (Table 2).

Table 1 - Do you purchase animal feed by Wereda

Farmers purchase animal feed	Wereda					
	Welmera		Dendi		Overall sample	
	N	%	N	%	N	%
Yes	48	60	88	60	136	60
No	32	40	58	40	90	40

Table 2 - Type of Livestock feed purchased by Woreda

Type of feed	Wereda		
	Welmera (%)	Dendi (%)	Overall sample (%)
Hay	33.8	12.5	21
Straw	5	2.5	3.5
Grazing area	36.3	60.6	51.6
Oil seed cake	38.8	25.4	30.7
Wheat bran	41.3	3.3	18.5
Wet grass	26.3	11.8	17.4
Total	181.5	116.1	142.7

Place of feed purchase

Different types livestock feeds were marketed in different places /markets in villages depending on availability and accessibility. About 56.8% and 56% of the interviewed farmers that have been purchasing hay and wheat bran respectively were from any place /site where available. Whereas, majority of the interviewed farmers (91.6%) the access of purchasing straw from neighboring farmers. About 42.9% of the interviewed farmers that have been purchasing grazing area where from farmer's field in the surrounding. Almost all of the interviewed farmers (100%) that have been purchasing oil seed cakes were from the neighboring (Ginchi) town (Table 3).

To cite this paper: Mesfin R., Tesfaye A. 2012. Marketting situations of livestock feeds in Welmera and Dendi Wereda of west Shoa zone, Ethiopia. *Online J. Anim. Feed Res.*, 2(3): 277-282.
Scienceline/Journal homepages: http://www.science-line.com/index/; http://www.ojafr.ir

Table 3 - Place of feed purchase of both weredas						
Place of purchase	Over all sample (%)					
	Animal feeds and grazing area					
	Hay	Straw	Grazing area	Oilseed cake	Wheat bran	Wet grass
Neighboring	-	91.6	-	-	-	-
Village	-	-	-	-	-	-
Any area/site where available	56.8	-	-	-	56	-
Ginchi	-	-	-	100	-	-
Trader	-	-	-	-	-	-
Farmers field in the surrounding	-	-	42.9	-	-	-
Farmers field away	-	-	-	-	-	-
Keba	-	-	-	-	-	-
Soko	-	-	-	-	-	-
Awumara	-	-	-	-	-	-
Abebe	41	-	-	-	-	-
Mumea	-	-	-	-	-	-

Purchase of feeds for different breeds of animals

Forty four percent (44.2%) of the interviewed farmers have been purchasing hay to feed local animals. Whereas, the proportion of farmers that have been purchasing hay to feed crossbred animals was by far less than (3.2%) that of the farmers purchased hay to feed local animals (44.2%). Fewer proportion (8.4% and 1.2%) of the interviewed farmers purchase straw to feed local and crossbred animals respectively. In addition, 69% and 2.5% of the interviewed farmers purchase grazing area for local and crossbred animals respectively. With regard to concentrate feeds, 55.9% and 3.6% of the farmers purchased oilseed cakes to supplement local and crossbred animals respectively. Similarly, 44% and 4.8% of the interviewed farmers have been purchased wheat bran to supplement local and crossbred animals respectively. About 38% and 21% of the interviewed farmers have been purchasing wet grass to feed local and crossbred animals respectively (Table 4).

Regardless of the breed of an animal to be fed, the highest proportion (71.2%) of the interviewed farmers has been purchasing grazing area. This indicates that grazing area is the most limiting factor for rearing animals in the highlands. Oil seed cakes are the second most feed type that have been purchased (59.5%) to supplement both local and crossbred animals. Because of its abundance in the highlands, oil seed cakes retain the second rank among the purchased concentrate feeds. Similarly, 58.9% of the interviewed farmers have been purchasing wet grass to feed both local and crossbred animals. This implies that during rainy season in the highlands, there is shortage of feeds and animals concentrate in areas that are not suitable for croplands. Close to fifty percent (48%) of the interviewed farmers purchase wheat bran as concentrate feed to supplement both local and crossbred animals. The proportion of farmers that have been purchasing wheat bran was less than that of the farmers purchasing oil seed cakes. This is because oil seed cakes are more abundant than wheat bran. This is because flour milling factories in the survey area are less available. Close to flirty percent (47.4%) of the interviewed farmers also purchased hay to feed both local and crossbred animals. This indicates that farmers in the highlands have a problem of shortage of roughage feeds. This is related to the limitation of adequate and fertile grazing area that can grow forage feeds that can satisfy the feed requirement of animals. However very few proportion (8.6%) of the interviewed farmers purchases straw to crossbred animals. Since all farmers in the highlands cultivate food crops, crop residues including straws and stoves are abundant throughout the year. That is why very less number of farmers' purchases straw to feed animals. This implies that the amount of straw produced by some farmers is not adequate to feed their animals. This may be related to scarcity of cropland owned by individual farmers. However, farmers should not feed crop residues as it is. They should either treat them or supplement to upgrade their nutritive value (Table 4).

Table 4 - Purchase of feeds for different breed of animals in both weredas			
Feed types	Over all sample farmers purchased feed and grazing area (%)		
	breeds of animals		
	Local animals	Crossbred animals	Total
Hay	44.2	3.2	47.4
Straw	8.4	1.2	8.6
Grazing area	68.7	2.5	71.2
Oil seed cake	55.9	3.6	59.5
Wheat bran	44	4.8	48
Wet grass	37.9	21	58.9

Reasons for not buying Livestock feed

About 48% of interviewed farmers did not purchase livestock feeds. Having enough feed,, lack of cash, unavailability of feed for sale, expensiveness of the feeds and others were the possible reasons for not buying livestock feeds. Farmers interviewed from Welmera wereda have been buying more animal feeds as compared to farmers from Dendi (Table 5).

To cite this paper: Mesfin R., Tesfaye A. 2012. Marketting situations of livestock feeds in Welmera and Dendi Wereda of west Shoa zone, Ethiopia. *Online J. Anim. Feed Res.*, 2(3): 277-282.
Scienceline/Journal homepages: http://www.science-line.com/index/; http://www.ojafr.ir

Table 5 - Reasons for not buying Livestock feed by wereda			
Reasons	Wereda		
	Welmera (%)	Dendi (%)	Overall sample (%)
Having enough feed	25	75	44.7
Lack of cash	12.5	18.5	14.9
Unavailability of feed for sale	1.3	5.6	3
Expensiveness	11.3	3.7	8.2
Other	1.3	1.9	1.5
Total	51.4	104.7	72.3

Problems related to Livestock feed

About 76% percent of the interviewed farmers in both weredas reported that there was shortage of animal feed. Because of this reason, majority of the farmers have forced to purchase animal feed (Table 6).

Table 6 - Problems related to Livestock feed by wereda			
Reasons	Wereda		
	Welmera (%)	Dendi (%)	Overall sample (%)
Yes	75	76.4	75.9
No	25	23.6	24.1

Source for purchase of Livestock feed

With regard to the source of feed purchase, majority of the interviewed farmers (69%) have been buying livestock feeds from other farmers. This indicates that other class of the society have not yet been take part in doing business on the agricultural sector Whereas, about 29% of the interviewed farmers have been purchasing feed from traders. About 4% of the interviewed farmers have been purchasing from any seller. As we compare the two weredas interns of source of feed purchase, farmers from Welmera wereda purchase animal feed from trader than those farmers from Dendi wereda. Whereas farmers from Dendi wereda have the access of purchasing animal feed from other farmers. This is because as compared to Dendi wereda, Welmera wereda is more closer to the cities Holetta and Addis Ababa. It is easier for Businessmen to run agricultural trading to the nearest city so as to minimize the transport cost (Table 7).

Table 7 - Source for purchase of Livestock feed by wereda			
Seller	Wereda		
	Welmera (%)	Dendi (%)	Overall sample (%)
From trader	43.8	17	29.3
From other farmer	46.3	88.3	69
From any seller	6.3	2.1	4
Total	96.4	107.4	102.3

For whom do farmers sell Livestock feed

For the interviewed farmers who have been selling livestock feeds, they have been mainly selling feeds to other farmers. As compared to farmers from Welmera, those farmers from Dendi wereda have the opportunity of selling animal feeds to other farmers. This implies that, there was no trader in Dendi wereda that can purchase livestock feed. This may be related to the closeness of Welmera wereda to cities like Holetta and Addis Ababa. As compared to farmers from welmera, farmers from Dendi have mainly the access of selling feeds. This may be related to the access of producing adequate feeds for farmers in Dendi Wereda than in welmera Wereda (table 8).

Table 8 - For whom do you sell Livestock feed by wereda?			
Buyer of Livestock feed	Wereda		
	Welmera (%)	Dendi (%)	Overall sample (%)
To trader	1.3	0	1.1
To other farmer	21.3	90.9	29.7
Total	22.6	90.9	30.8

Problems related to market of livestock feed

There have been many problems related to livestock feed. High price, poor quality and low price of animal feeds were the possible problems. Among which, high selling price of feed was mainly (38.2%) affecting market of livestock feeds. Poor quality feeds were the second problem (15.8%), affecting market of Livestock feed (table 9).

Table 9 - Problems related to market of livestock feed * Woreda			
Problem	Wereda		
	Welmera (%)	Dendi (%)	Overall sample (%)
High price	36.3	39.8	38.2
Poor quality	35	0	15.8
Low price	7.5	1	4
Total	78.8	40.8	58

To cite this paper: Mesfin R., Tesfaye A. 2012. Marketting situations of livestock feeds in Welmera and Dendi Wereda of west Shoa zone, Ethiopia. *Online J. Anim. Feed Res.*, 2(3): 277-282.
Scienceline/Journal homepages: http://www.science-line.com/index/; http://www.ojafr.ir

Area of land used for different purposes

Among the areas of land used for different functions, cultivated land constitutes the largest (2.47). Fallow land constitutes the second in area coverage (0.63 ha) and grazing land comes third (0.52 ha). Relatively very small area, 0.05 and 0.01 ha were allocated for vegetable land and tree land respectively. Alemayehu (2005) observed similar result in that tree land constitutes the smallest proportion of the land allocated for different uses. It was also similarly reported that greater proportion (3.2 ha) of the land was allocated for cultivation of crops and only 1 ha and 0.4 ha of land were allocated for grazing and other areas respectively. It was observed that the proportion of land allocated for cultivation of crops, for grazing and so on was declining from year to year. This has become the main reason for shortage of feed and decline of livestock holding and productivity. Because grazing and browsing account the major (88%) portion of the total feed supply in Ethiopia (Zelalem, 1999). In comparing the two weredas, the average land holding of farmers in Welmera wereda was greater than that of the farmers in Dendi. (Fig 1).

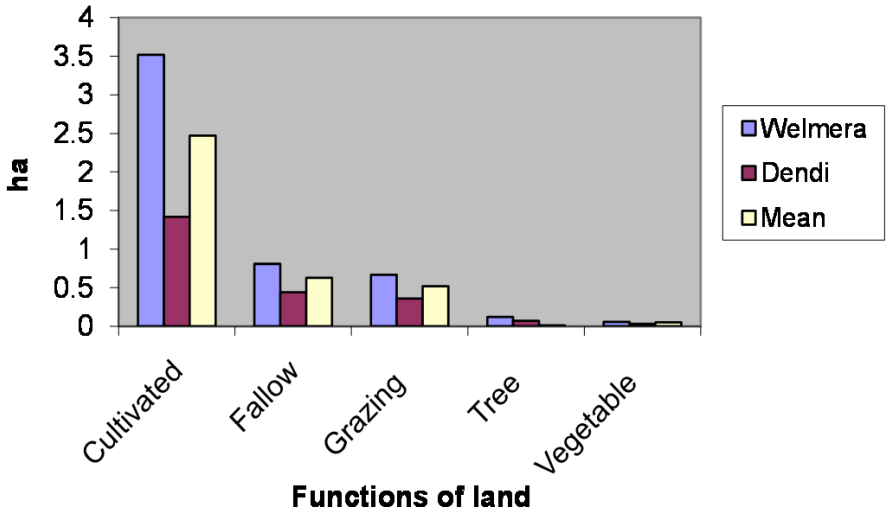

Figure 1 - Average prices of concentrate feeds and hay in different years

The increase in price of animal feeds including hay and different concentrate ingredients starting from the year 1990 to 1999 was gradual and was stable. The increase in price of feeds from the year 1999 to the year 2000 was in abrupt condition. As compared to the year 1999, the price of concentrate feed has reached in to 2-3 folds of the pries in the year 1999. The abrupt increase in the year 2000 was more for concentrate feeds than the price of hay. Among the price of different concentrate ingredients the price increase of noug cake was the highest. In recent times grain of noug seed has got great export demand. Due to this, the price of noug cake in the domestic market has become too expensive. Next to this the price of other concentrate ingredient feeds like wheat bran and wheat middling has increased in accelerated trend in the year 2000 (Figure 2).

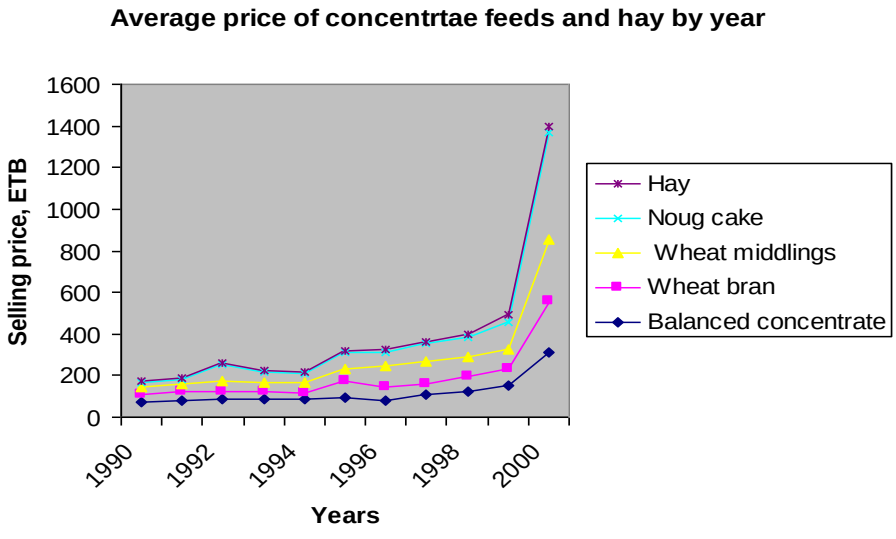

Figure 2 - Average price of concentrate feeds and hay

To cite this paper: Mesfin R., Tesfaye A. 2012. Marketting situations of livestock feeds in Welmera and Dendi Wereda of west Shoa zone, Ethiopia. *Online J. Anim. Feed Res.*, 2(3): 277-282.
Scienceline/Journal homepages: http://www.science-line.com/index/; http://www.ojafr.ir

CONCLUSIONS

The survey results revealed that majority of the interviewed farmers have faced feed shortage problems. As a result they are forced to purchase livestock feeds. The major problems associated to feeds and marketing are high purchased price and poor quality. Among the areas of land used for different functions, land allocated for crop cultivation constitutes the largest. The proportion of land allocated for fallowing, grazing, vegetable production and tree growing goes respectively in decreasing order. Price of livestock feeds is accelerating with time.

RECOMENDATIONS

To alleviate the problems of feed shortage and decline of livestock productivity, intensive handling of improved crossbred dairy cows, forage development and feeds conservation schemes should be promoted in wider scale. Considering the ever-increased price of feeds, there is a need to shift from purchase commercial feeds to use of farm produced feed resources. Policy considerations focusing to development of livestock feed supply is required in Ethiopia.

ACKNOWLEDGMENT

The Authors wish to thank the Holetta Agricultural Research Center for financial provision to undertake the survey. Appreciation also goes to farmers that have been participated during the interview process.

REFERENCES

Adugna T (2009). Livestock Feed Supply Situation in Ethiopia. In the Proceedings of the 16th Annual Conference of the Ethiopian Society of Animal production (ESAP). Commercialization of Livestock Agriculture in Ethiopia.

Alemayehu M (2002). Forage Production in Ethiopia. A Case Study with Implications for Livestock Production. In the Proceedings of 9th Annual Conference of Ethiopian Society of Animal production (ESAP), PP: 84-94.

Alemayehu M (2005). Feed Resources Base of Ethiopia: Status, Limitations and Opportunities for Integrated Development. In the Proceedings of the 12th Annual Conference of the Ethiopian Society of Animal Production (ESAP), pp: 251-259.

Barret CB, Chabari F, Bailey D, Little P and Coppock D (2003). Livestock Pricing in the Northern Kenyan Rangelands. Journal of Africa Economics, 12(2): 127-155.

Betre A 2000. Promising Multipurpose Tree Species and Strategies of Fodder Production in Ada wereda of Ethiopia. In the Proceedings of 7th Annual Conference of Ethiopian Society of Animal production (ESAP). Livestock Production and the Environment-implications for Sustainable Livelihoods, pp: 253 – 260.

CSA (Central Statistics Authority) (2001). Ethiopian Agricultural Sample Enumeration (EASE). Executive Summary. Addis Ababa, Ethiopia.

Ehui SK, Ahmed MM, Berhanu G, Benin SE, Pratt A and Lapar M (2003). Livestock Policy Analysis. Policies for Improving Productivity, Competitiveness and Sustainable Livelihoods of Smallholder Livestock Producers. ILRI (International Livestock Research Institute), Nairobi, Kenya.

Little P, Smith K, Cellaruis B, Coppock D and Barrette C (2001). Avoiding Disaster, Diversification and Risk Management Among East African Herders. Development and Change. 32 (30): 401-433.

Mirjam S, 1998. Smallholder Dairy Intensification in the Ethiopian Highlands: Consequences for Intra household Resource Allocation and Benefits. MSc thesis. Humbodt-University of Berlin. International Livestock Institute (ILRI) Livestock Policy Analysis Program (LPAP). Addis Ababa, Ethiopia.

SPSS 12.0 for windows (2003). Release 12.0.0. Statistical Package for Social Sciences, USA.

Tessema, Z., Robert, B., and Alemu, Y. (2002). Effect of Plant Height at Cutting, Source and Level of Fertilizer on Yield and Nutritional Quality of Napier grass (Pennisetum purpureum (L.) Schumach). African Journal of Range and Forage Science, 19: 123.

Tesfaye LT, Azage T, Banjitha P and Dirk H (2009). Moving Ethiopian Smallholder Dairying along a Sustainable Commercialization Path: Missing Links in the Innovation System. In the 16th Annual Conference of the Ethiopian Society of Animal Production. Commercialization of Livestock Agriculture in Ethiopia, pp: 39-50.

Zelalem Y (1999). Smallholder Milk Production Systems and Processing Techniques in the Central Highlands of Ethiopia. MSc Thesis. Swedish University of Agricultural Sciences. Uppsala, Sweden, pp: 11–24.

To cite this paper: Mesfin R., Tesfaye A. 2012. Marketting situations of livestock feeds in Welmera and Dendi Wereda of west Shoa zone, Ethiopia. *Online J. Anim. Feed Res.*, 2(3): 277-282.
Scienceline/Journal homepages: http://www.science-line.com/index/; http://www.ojafr.ir