**Material and Methods**

***Description of the study area***

The study was conducted in Bako agricultural research center of shambu sub-site during 2020 cropping season for one year. BARC is found in altitude 1650m asl. And latitude of 9o06N and longitude of 37o09’E with a mean monthlyminimum and maximum temperature of 11.23Co and 31.74Co respectively. It is located 250 km west of Addis Ababa in East Wollega Zone of Oromia, Ethiopia. The major soil type of the Center is sandy loam with reddish color (BARC, 2010). The study area is characterized by its sub-humid climatic condition where the wet season extends from June to September and the actual dry period occur from November to March (BARC metrological station).

**Experimental Material and Design**

Nine alfalfa genotypes were brought from ILR and tested in randomized complete block design with three replications on plot area of 4m2 with a plot length, width of 2mx2m at row spacing of 0.2cm and 1m and 1.5m between plot and blocks respectively.

**Experimental Management**

Land preparation was done using animal drawn convectional tillage implements 2-3 times was inverted and break down in to fine tilth to create suitable soil condition for uniform emergence of seedlings and moisture conservation. Planting of alfalfa was done early June when the rain fall was well established and drilling method of planting was used at row spacing of 0.2m

Table 1: Performance of Alfalfa lines at Shambu sub- site

Treatment/Accessions pc(%) PH(cm) DMY(t/ha)

1 8.00 64.33 1.90 a

2 7.00 75.67 1.190bc

3 7.33 71.00 1.59ab

4 8.67 70.67 1.46ba

5 7.67 78.00 1.86a

6 8.00 73.00 1.91a

7 8.67 72.00 1.69a

8 5.67 64.33 0.88c

9 7.00 69.00 1.64ba

Mean 7.56 70.89 1.57

CV 15.91 11.95 16.99

LSD(1%) 2.08 14.66 0.46

Sig. Ns Ns \*\*\*