

---

\*

( // : // : )

%

P.E.T.)

( )

(

/ / / C/N / / / C/N / / /

---

.()

.( )

.()

Archive of SID

.()

.()

%

.()

%

.()

%

b

a

.( )

$$= \frac{a-b}{a} \times 100$$

C/N

Archive of SID

.( )

B

A

.( )

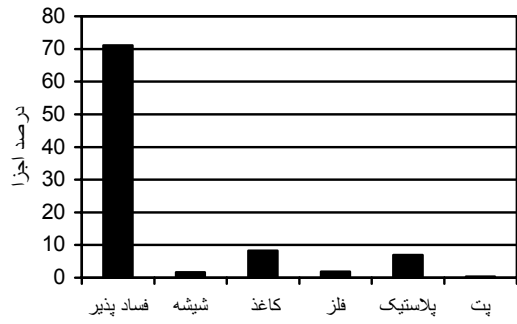
W

C/N

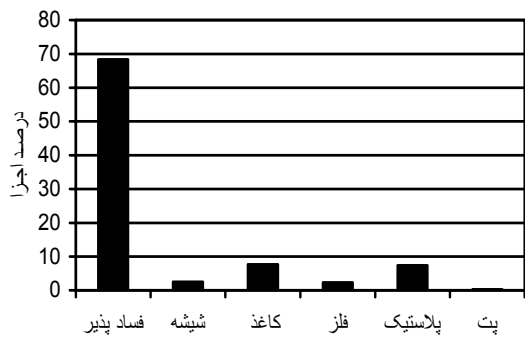
.( )

$$\frac{4(A-B)0.1 \times 3}{W} = X$$

$$\frac{X \times 100}{1000} =$$



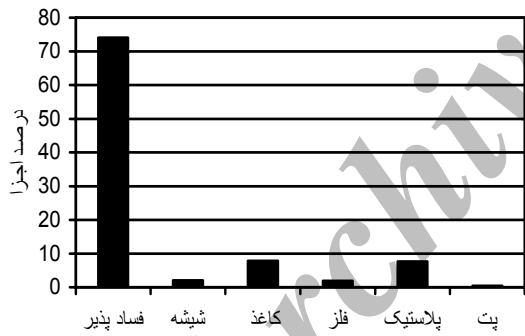
(.)



(ANOVA)

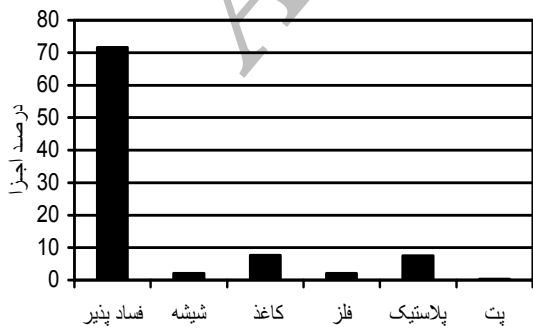
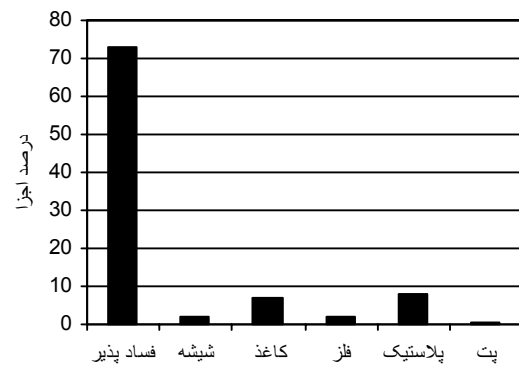
%

(.)



C/N

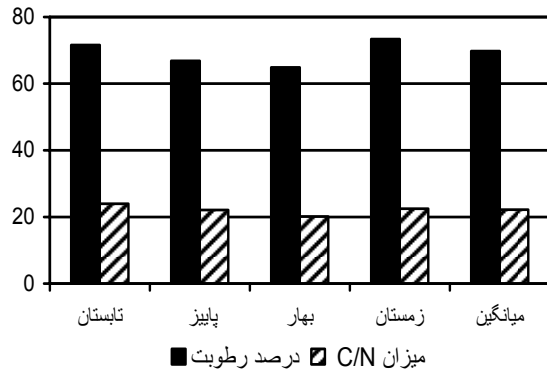
(.)



( )

( )

( )	( )	



C/N

( ) ( )

( ) ( )

/ %

/ C/N / %

/ / /

/ / /

/

/ Kg/cap.day)

( ) ( /

C/N

(.)

Archive of SID

( )

/ % / % PET / % / %  
/ % / CN

(.)

/ % : / / %  
/ / % / / %  
/ / % (.) %

( )

/ /  
/ /  
% / /  
/ % / CN

(.)

:

---

Archive of SID

---

10- Achankeng, E. 2003. *Globalization, urbanization and municipal solid waste management in Africa*. University of Adelaide, 22.

11- Bernache-Perez, G., Sanchez-Colon, S., Garmendia, A.M., Davila-Villareal, A. and Sanchez- Salazar, M.E. 2001. Solid waste characterization study in the Guadalajara metropolitan zone, Mexico. *Waste management and research*, 19:413-424.

12-Pearce, D. and Turner, R.K. 1994. *Economics and solid waste management in the developing world*. University college London and University of East Anglia, 20.

13-Zurbrugg, C. 2003. *Urban solid waste management in low – income countries of Asia, How to cope with the garbage crisis*. Department of water and sanitation in developing countries (SANDEG),13.

14- Zurbrugg, C. 2003. *Urban solid waste management in low – income countries of Asia, How to cope with the garbage crisis*. Department of water and sanitation in developing countries (SANDEG),13.



## Evaluation of priorities and potential of recycling of municipal solid waste in Shahreza

F. Nazem<sup>\*1</sup>, M. A. Abdoli<sup>2</sup>, A. Riahi Bakhtiari<sup>3</sup> and A. R. Masah<sup>4</sup>

<sup>1</sup> MSc. Graduate, Collage of Natural Resource, Tarbiat Modares University, I.R. Iran

<sup>2</sup> Professor, Collage of Environment, University of Tehran, I.R. Iran

<sup>3</sup> Instructor, Collage of Natural Resource, Tarbiat Modares University, I.R. Iran

<sup>4</sup> Assistant Prof, Chemistry Department, Islamic Azad University of Shahreza, I.R. Iran

(Received: 16 December 2005, Accepted: 28 October 2008)

### Abstract

Population increasing and land decreasing for solid waste disposing is the reason for the problems of municipal solid waste dispose in Iran. Also almost 70% of municipal solid waste in Iran is made of perishable materials and much of solid waste is made of plastic, paper and paperboard, metal and glass which all these materials are able to be recovered. Therefore, composting and recycling is the reason for reducing the material volume to landfills, environmental problems and also economical benefits. For priority determination of recovery and composting, qualitative and quantitative reorganizations of municipal solid waste are necessary. About 140,000 people live in Shahreza, and almost 90 ton municipal solid waste is produced daily. Landfill is 5 kilometer far from east of the residential area. For physical analysis, sampling of Shahreza municipal solid waste performed in landfill randomly. Sampling was performed in four seasons, each season for one week and each day about 20 samples ( a sample = 0.5 m<sup>3</sup>). In fact, in each season the sampling has been repeated 140 times. Six components that were made of perishables, metal, plastic and PET, of each samples were separated. Afterwards, mean percent of components was calculated daily, seasonal and annually from summer 1384 to spring 1385. For chemical analysis, sampling of perishables was performed in landfill randomly, in four seasons and each season about 14 samples and moisture content of samples and carbon to nitrogen ratio was measured. The results showed that 71.61% of Shahreza municipal solid waste is made of perishables. These materials consist of 69.69% moisture and 22.16% C/N. Each of the above mentioned components is comprised of plastic 7.57%, paper and paperboard 7.64%, glass 2.09%, metal 2.04% and PET 0.35% that by recovery and composting about 9, 768, 578, 580 Rials in landfill is avoided to waste annually. By considering sanitary and environmental damages, the percent and price of each of the components, recovery priority and composting was determined as follows: composting, plastic, paper and paperboard, metal, PET and glass recycling.

**Keywords:** Municipal solid waste, Evaluation, Recycling, Shahreza, Landfill

\*Corresponding author: Tel: +98 311 6625235 , Fax: +98 311 6625679 , E-mail: farnaz.nzm@gmail.com