

**CONSORZIO
PRIULA**

**“Gestione del biorifiuto, recupero
della sostanza organica,
mitigazione dei cambiamenti
climatici:**

**DEFINIRE LE STRATEGIE,
CONSEGUIRE I RISULTATI”**

Perugia - ITALIA

15 | 16 Aprile 2010

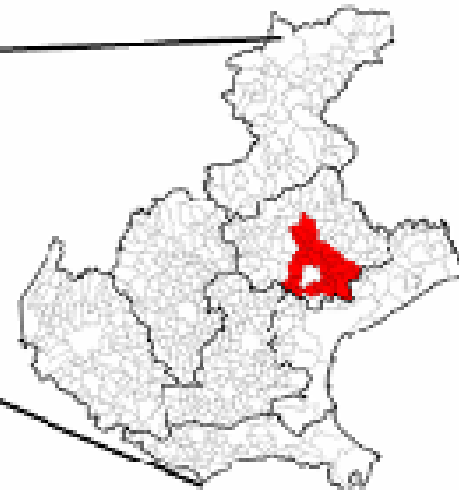
**The International
Solid Waste Association**



WHAT CONSORZIO PRIULA IS

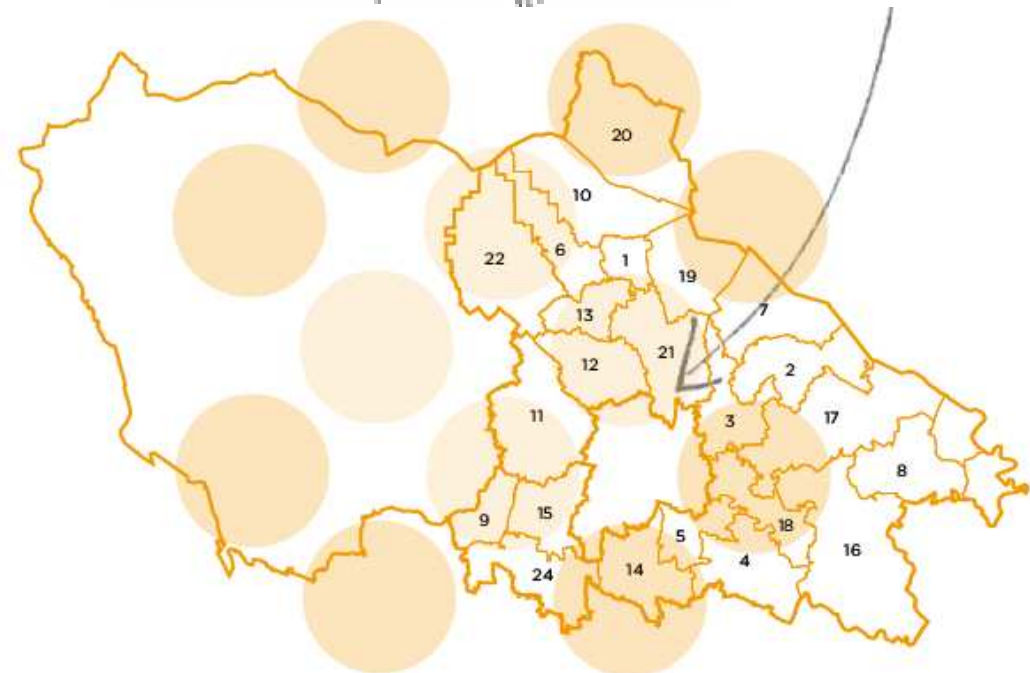
24 joint Municipalities

**It is involved in waste management:
collection, transport, treatment, users
management, collection fee**



TV2 AREA

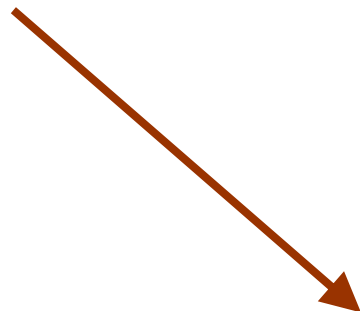
- **Municipalities: 24**
- **Population: ~243.000 inh**
- **Utilities : ~110.000**



THE OPERATING MANAGER



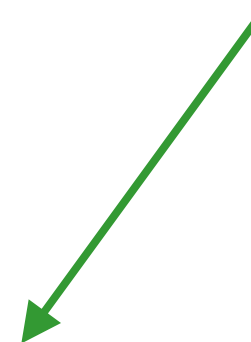
60%



- Environmental Policy
- Fee policy
- Rules



40%



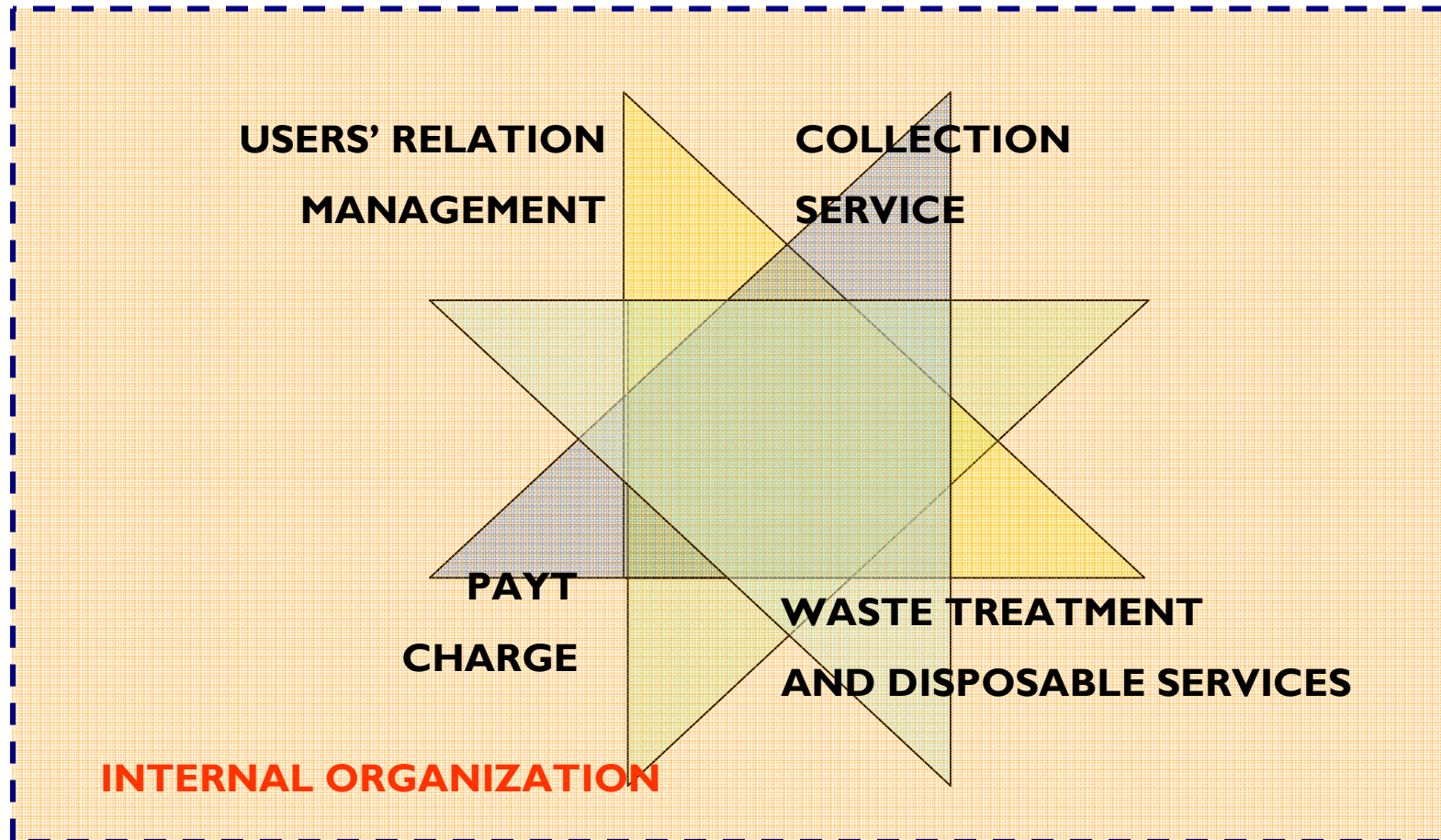
**CONTARINA
SPA**

- Management
-

THE STRATEGIES

- **Increasing recycling of materials by differentiated collection of waste**
 - **Door-to-door waste collection**
 - **Paying according to the effective waste production, particularly residual waste**
 - **Taking care of users through front-offices, communication campaign, environment education**
 - **Continuous improvement**
-

THE PRIULA'S STRUCTURE: A NEW MODEL



CHANGE OF COLLECTION SERVICE

From road containers...



CHANGE OF COLLECTION SERVICE








... to “door to door”

EACH WASTE IN ITS OWN BIN





	WHAT	WHEN	DESTINATION
	Residual waste	once a week	Refuse Derived Fuel production line- Spresiano (TV)
	Food waste	twice a week	Quality compost line – Trevignano (TV)
	Garden waste	once a week	
	Paper and cardboard	every 15 days	Comieco paper mills
	Glass Plastic Cans	every 15 days	Selection plant – Conai recycling centres

INDOOR WASTE MANAGEMENT

➤ **improving organic waste management**

- **weight reduction of waste**
- **less odors**
- **no fermentation**
- **no leachate**
- **less bag use**



OUTDOOR WASTE MANAGEMENT

U FOOD/KITCHEN WASTE

**Biodegradable bag
Brown bin**

**Doorstep collection
TWICE A WEEK**

WHAT TO PUT IN THE BIN:

- remains of fruit, vegetables and food in general
 - egg shells
 - small bones
 - remains of fish and shellfish
 - coffee grounds, coffee bags or tea bags
 - cut plants and flowers
 - used paper hankies and serviettes
 - small pet litters with excrement
 - cold ashes from fireplaces
 - corks
-



OUTDOOR WASTE MANAGEMENT

VG

GARDEN WASTE

Beige bin

 **Doorstep collection
ONCE A WEEK
from April to October**

 **ONCE EVERY 2 WEEKS
from November to March**

WHAT TO PUT IN THE BIN:

- twigs, prunings from trees and hedges
- grass cuttings and cut flowers
- plants without soil
- vegetable residues from the kitchen garden





CONSORZIO
PRIULA

PARTNER:



(Civic Amenity Site)



WASTE CHARGE

Transponder operation

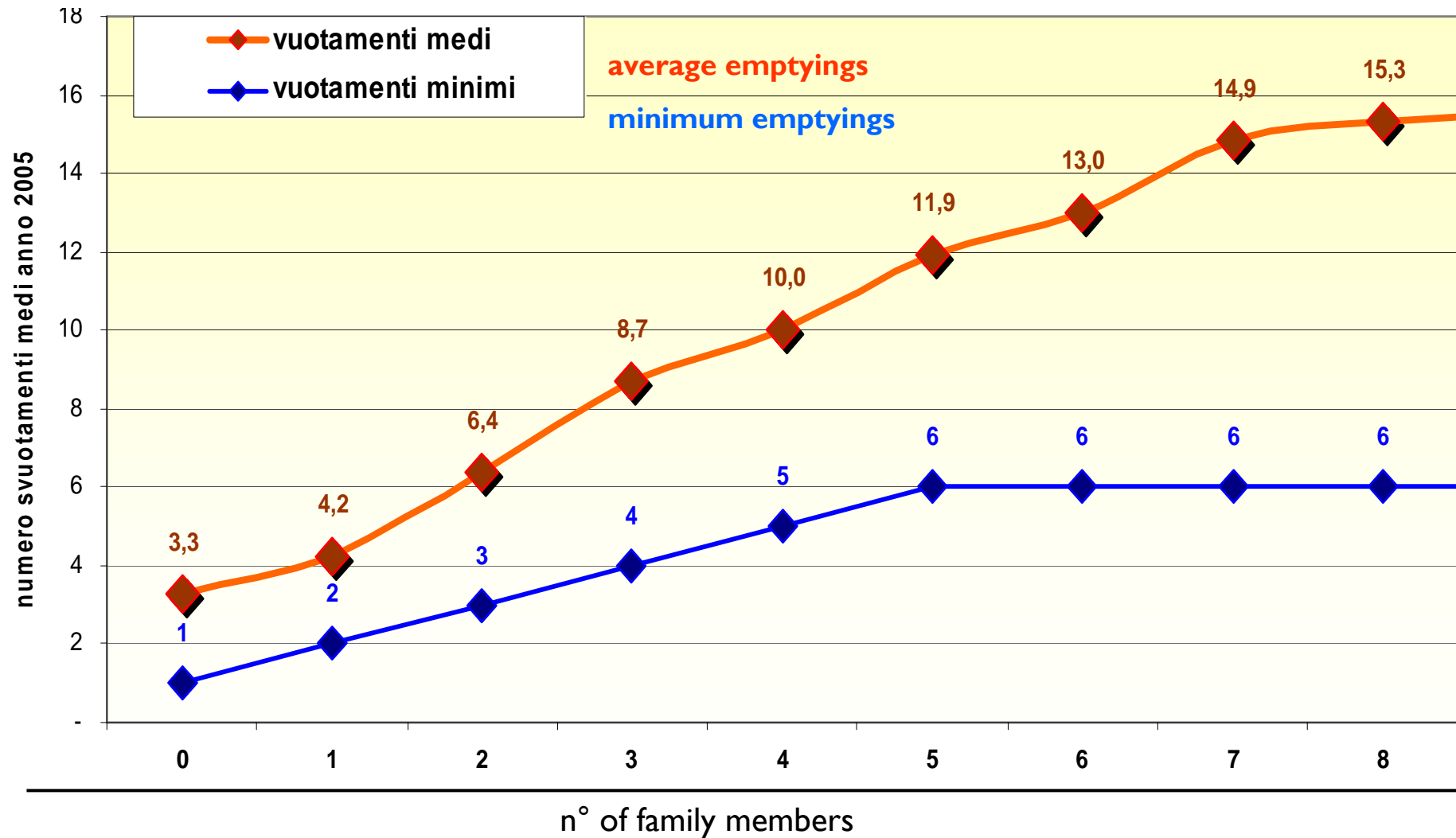
A passive electromagnetic transponder is installed in every residual waste bin.

A reader device turns the signal into an alphanumeric code which univocally identifies the bin.

Data are recorded on a file and processed.



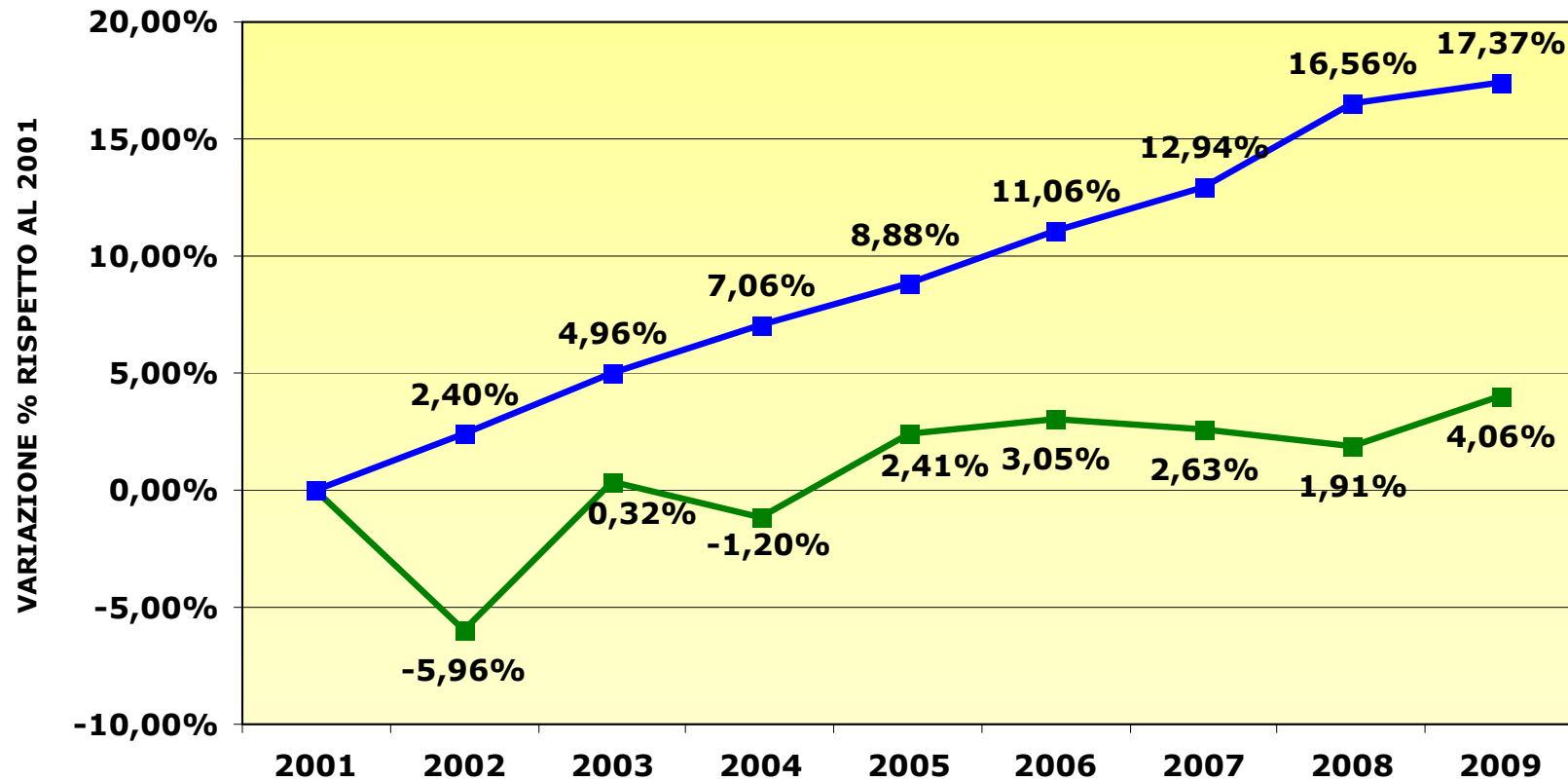
AVERAGE EMPTYINGS



AVERAGE DOMESTIC FEE

Year	(€/fam)	% increase
2001	137,48	
2002	129,29	-5,96%
2003	137,92	6,67%
2004	135,83	-1,52%
2005	140,80	3,66%
2006	141,67	0,62%
2007	141,09	-0,41%
2008	140,11	-0,69%
2009	143,06	2,11%

Domestic Priula fee VS National index of prices



% increase of domestic fee in Consorzio Priula (basis year 2001)

% increase of National index of prices (basis year 2001)

COLLECTION COSTS YEAR 2009

Kitchen/ Food waste*: 9,37 €/ inhabitant

Garden waste*: 3,34 €/ inhabitant

*bins included

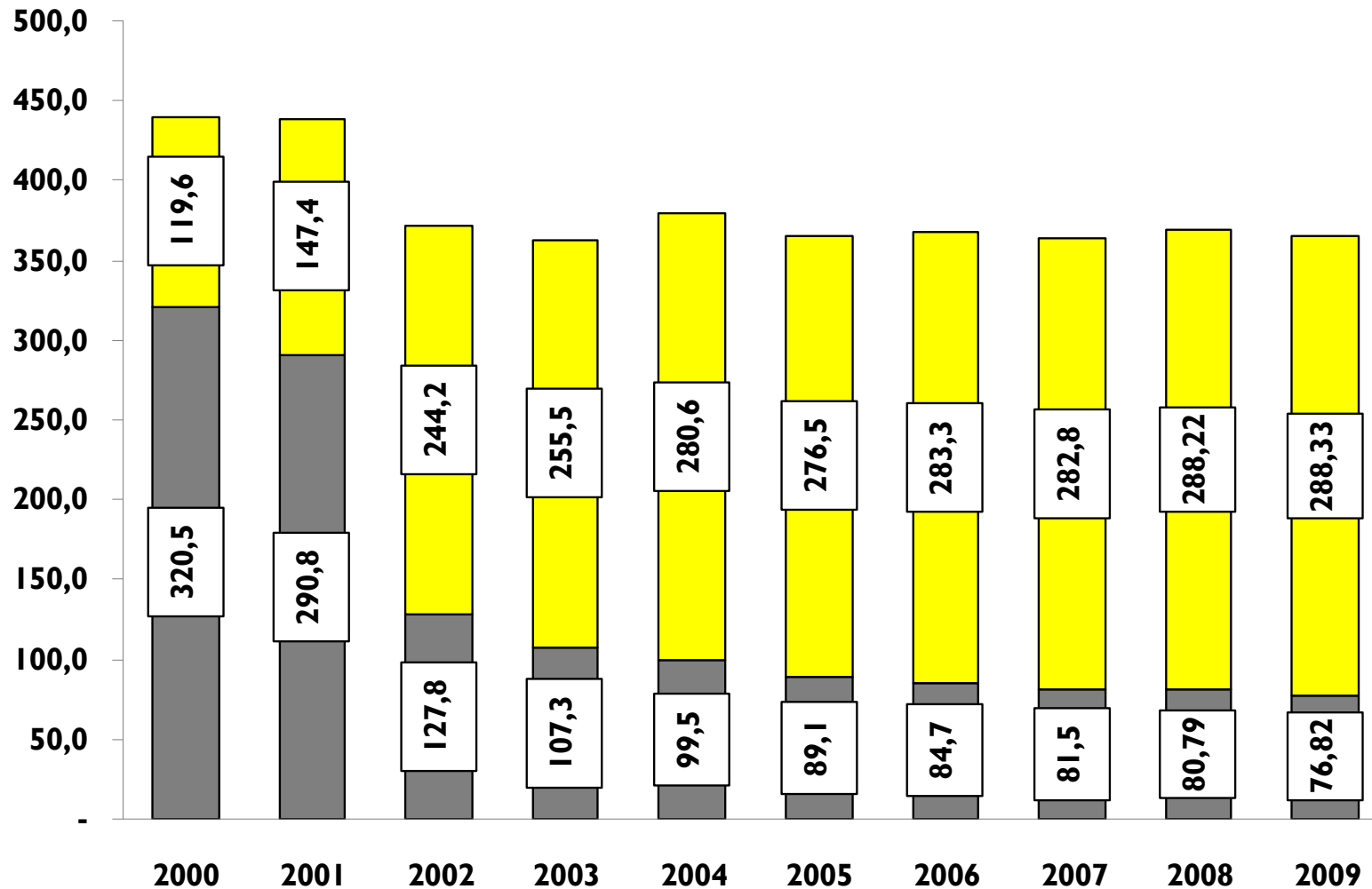
TREATMENT COSTS YEAR 2009

Kitchen/ Food waste: 97,12 €/t

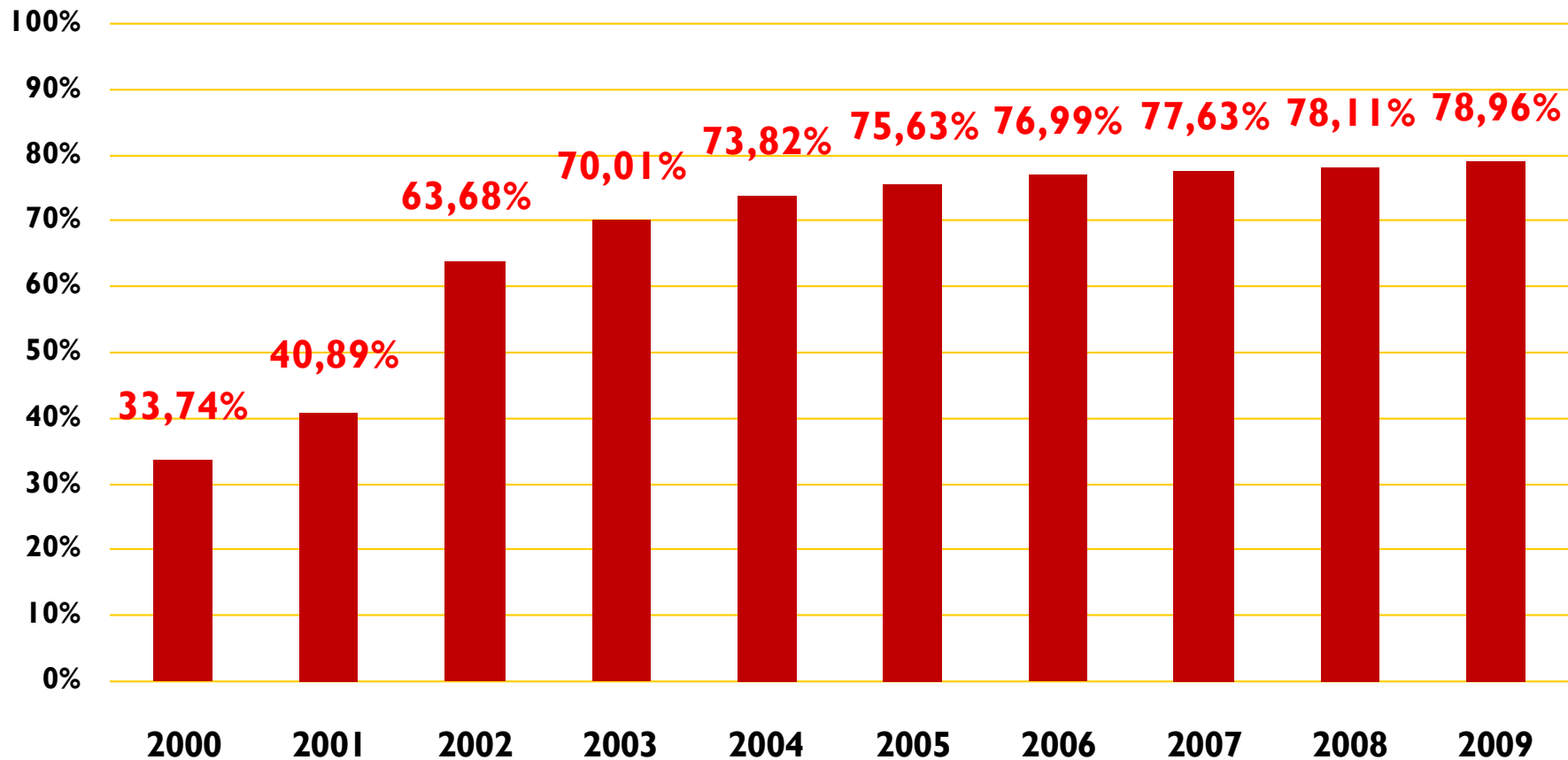
Garden waste: 57,04 €/t

QUANTITATIVE OUTCOME 2000-2009

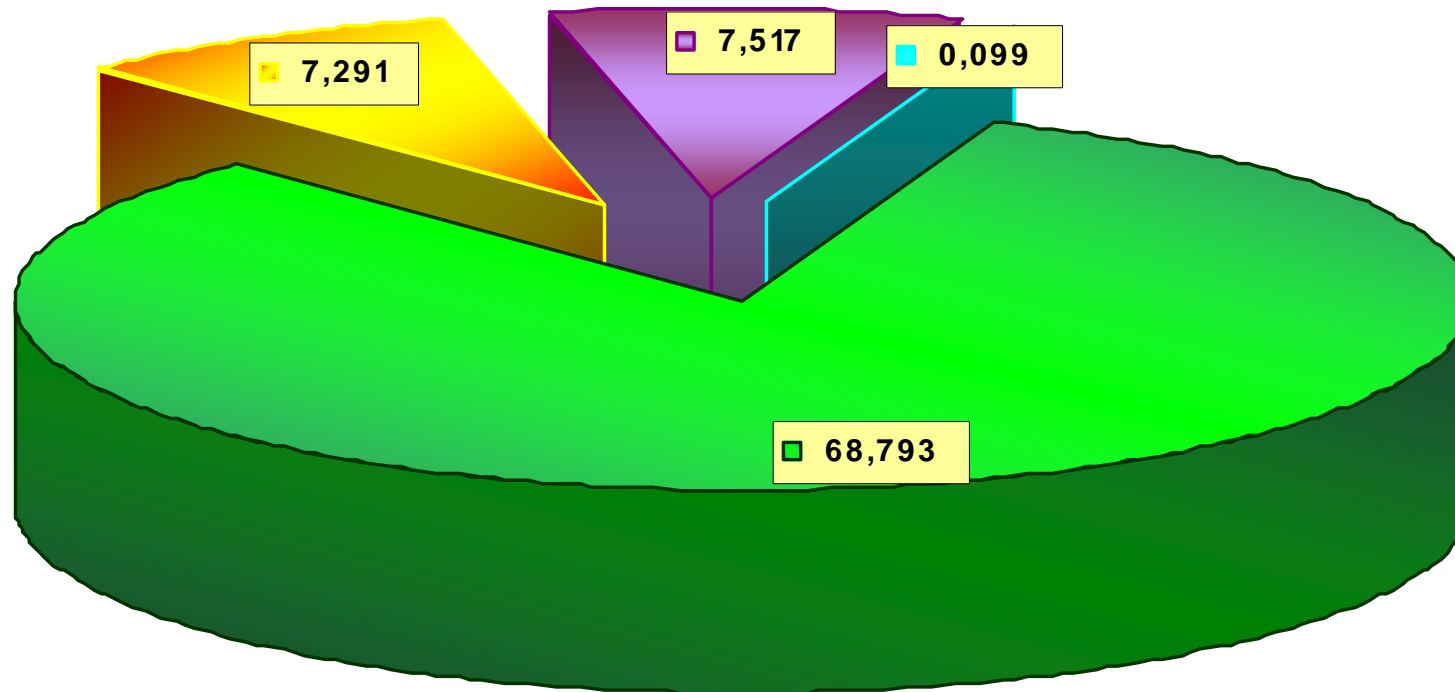
(kg / inh. * year)



QUANTITATIVE OUTCOME: **% INCREASE OF SEPARATE COLLECTION**



Non differentiated residual waste composition (bulky, sweeping, residual, cemeterial)



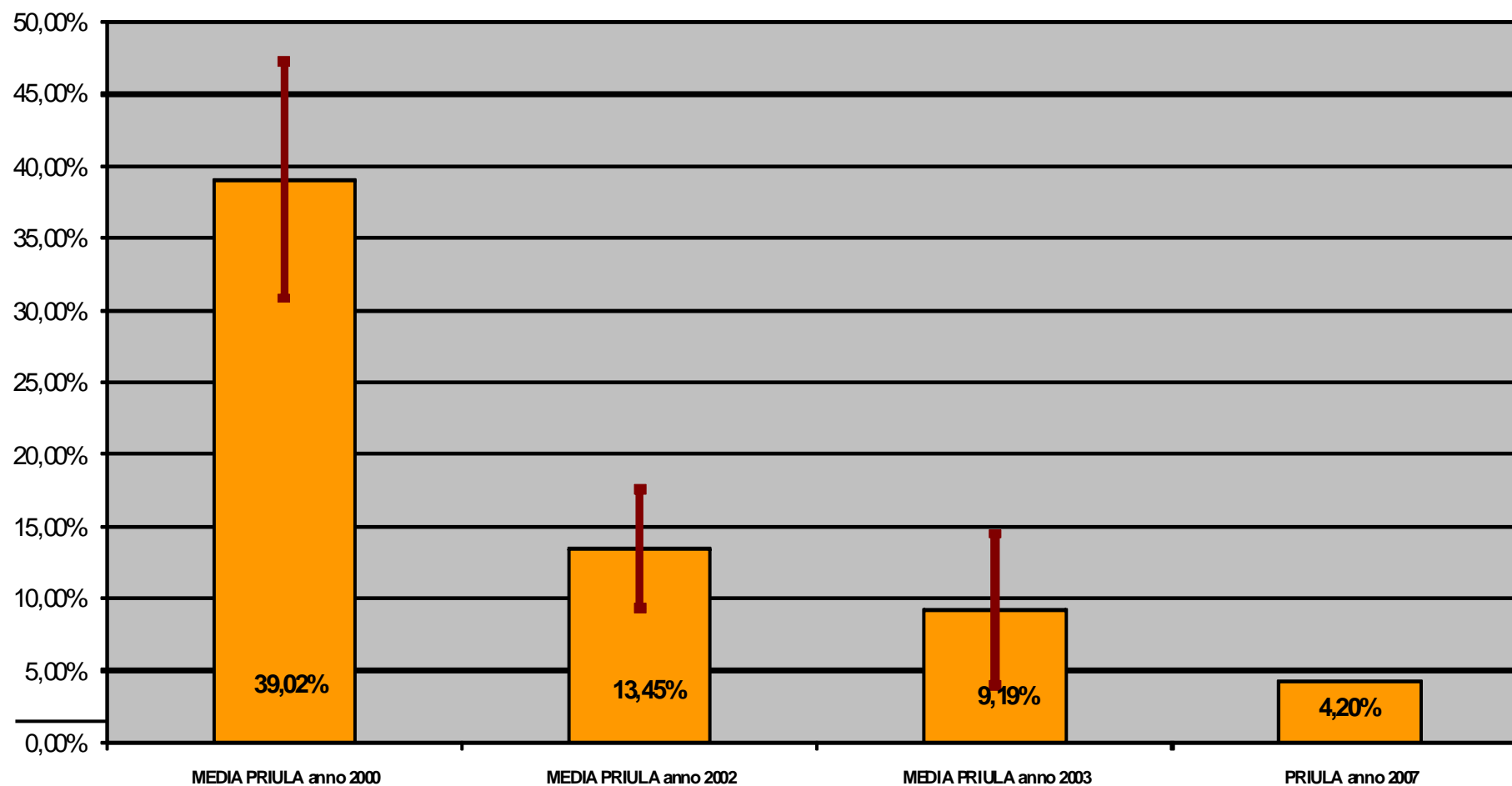
 **SECCO NON RICICLABILE**

 **SPAZZAMENTO**

 **INGOMBRANTI**

 **CIMITERIALI**

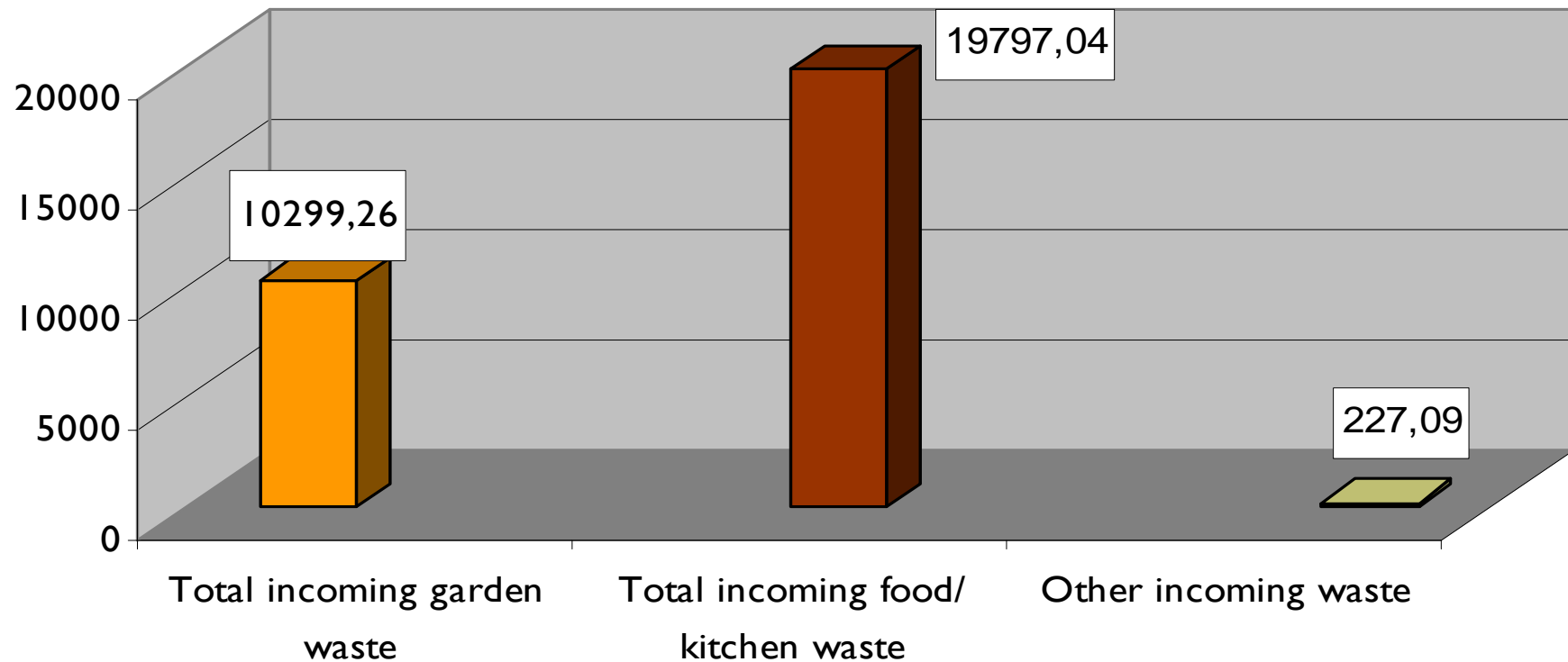
QUALITATIVE OUTCOME: SMALLER AMOUNT OF ORGANIC WASTE IN RESIDUAL WASTE








INFLOWS YEAR 2009

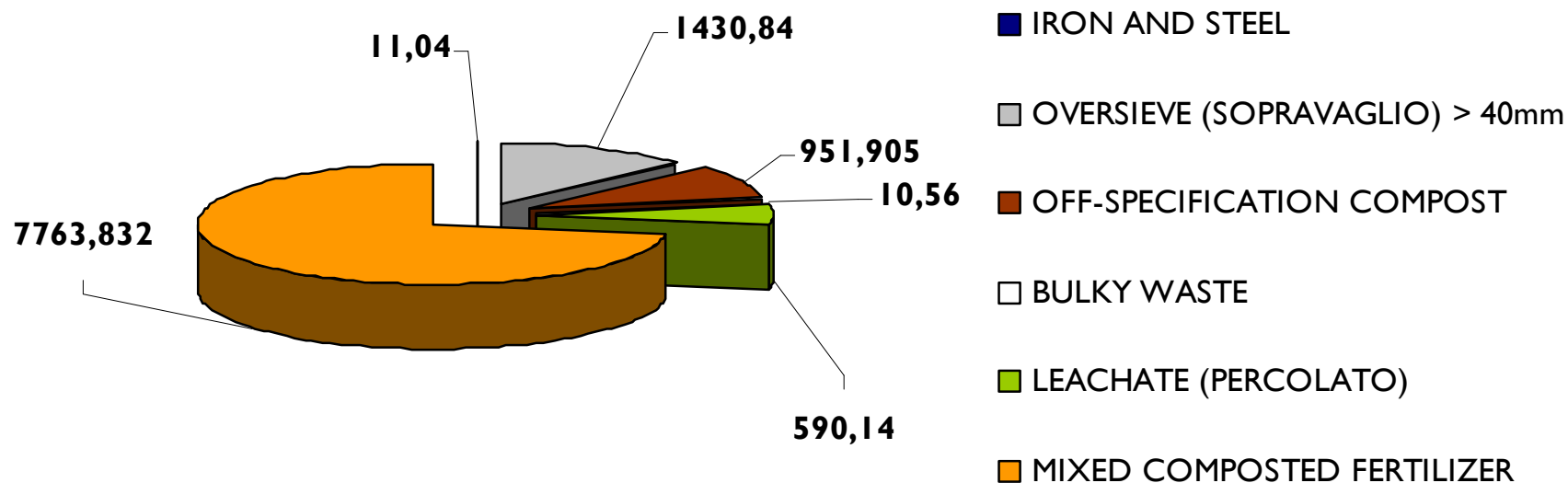
Total input: 30.323,39 t



-  INCOMING GARDEN WASTE YEAR 2009 (t)
-  INCOMING FOOD/ KITCHEN WASTE YEAR 2009 (t)
-  OTHER INCOMING WASTE YEAR 2009 (t)

OUTFLOWS YEAR 2009

Total output: 11.710,22 t





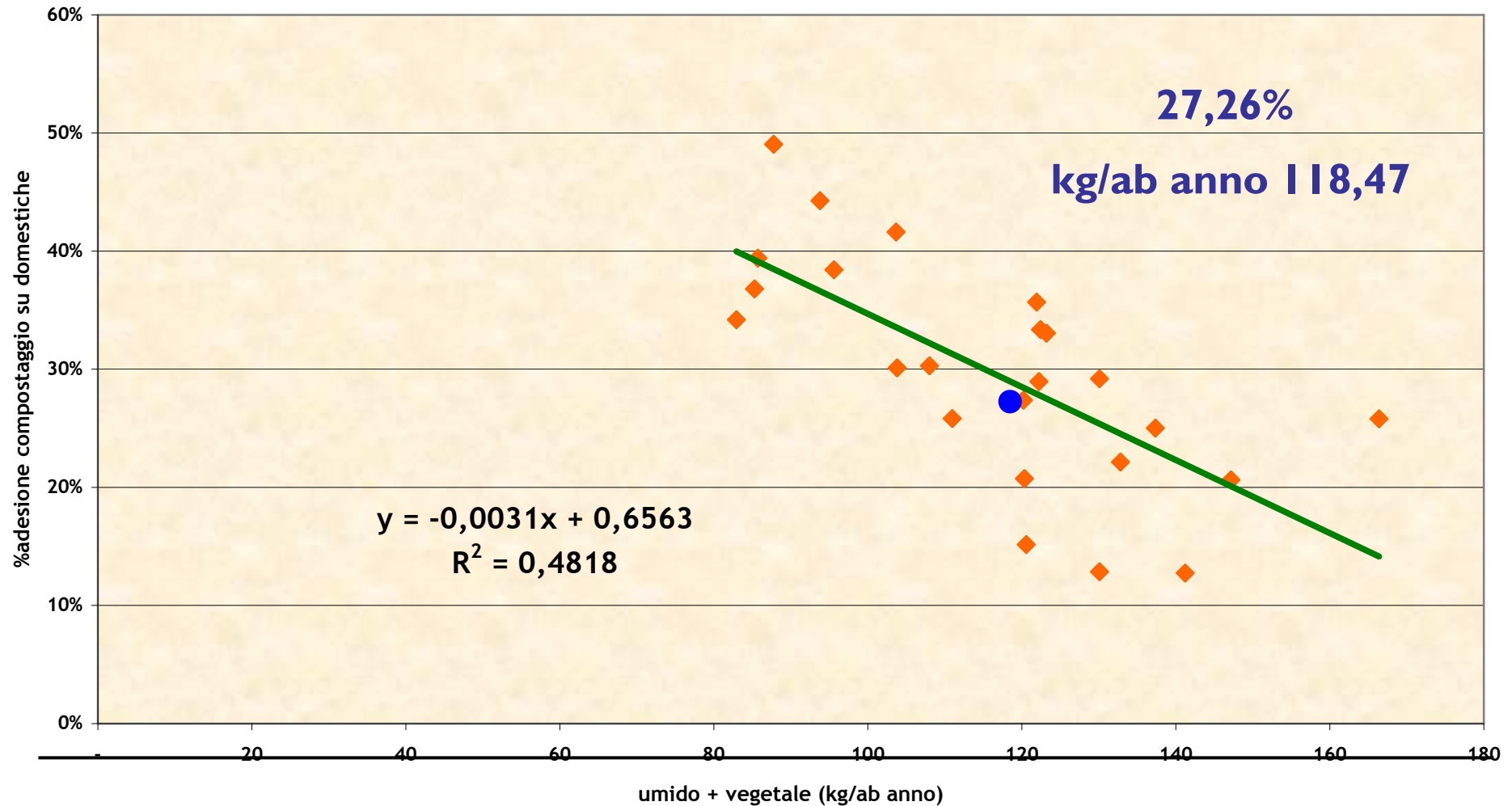
Fertilizer use:

- **1400 t to the farms of the province of Venice (Chioggia and area of Jesolo - San Donà)**
- **6363 t to the farms of the province of Treviso**

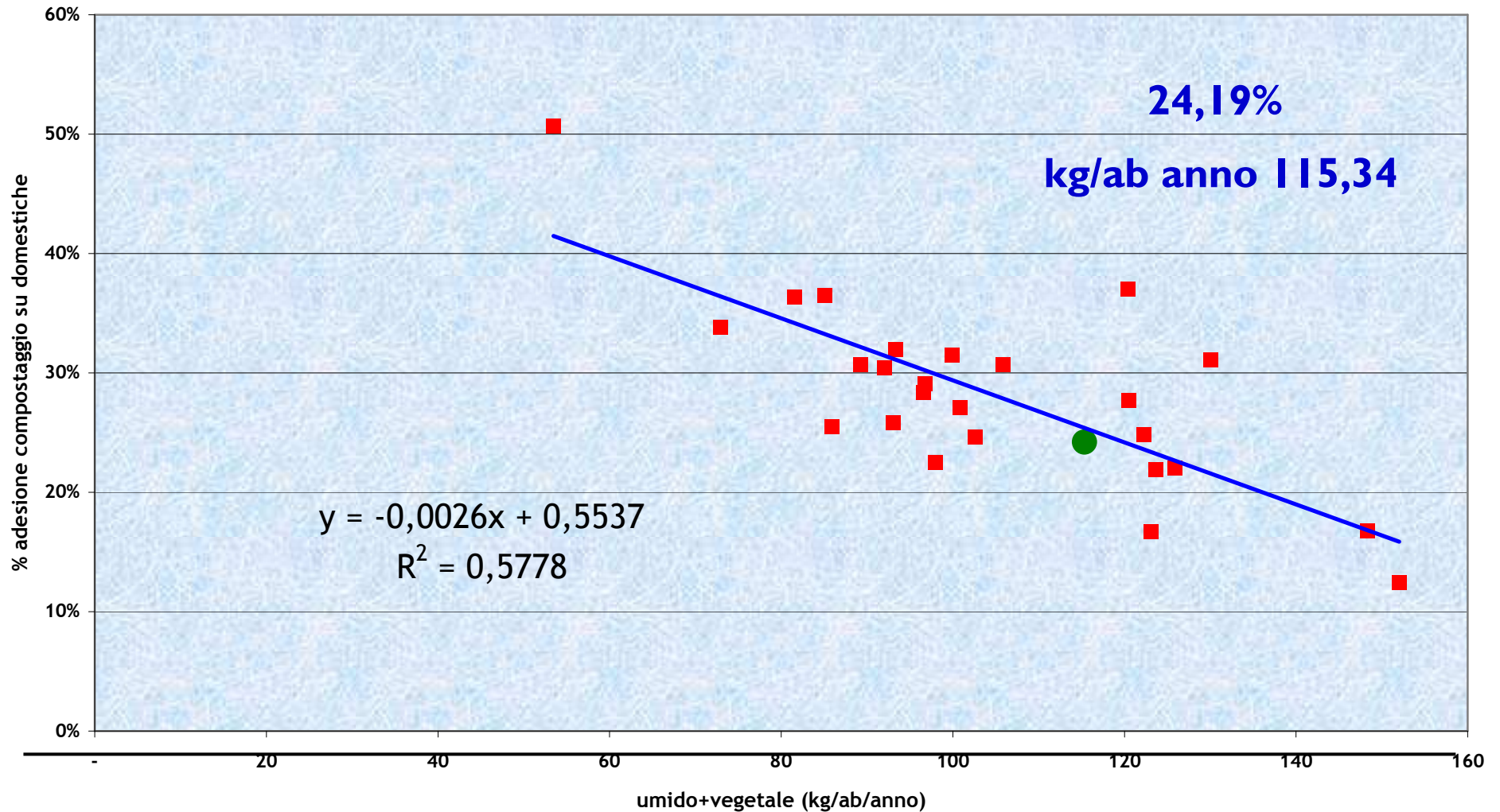
QUANTITATIVE OUTCOME: ORGANIC WASTE INTERCEPTION

Description	interception	
	kg/ab*y	%
Food waste from separated collection	64,7	43,8%
Garden waste from separated collection	53,8	36,5%
Amount organic waste from separated collection	118,5	80,3%
amount of organic waste from domestic composting (estimate according with official method of ARPA Veneto)	26,55	18,0%
Amount of organic waste interception	145,03	98,3%
organic in residual waste	2,46	1,7%
Amount organic waste	147,48	100,0%

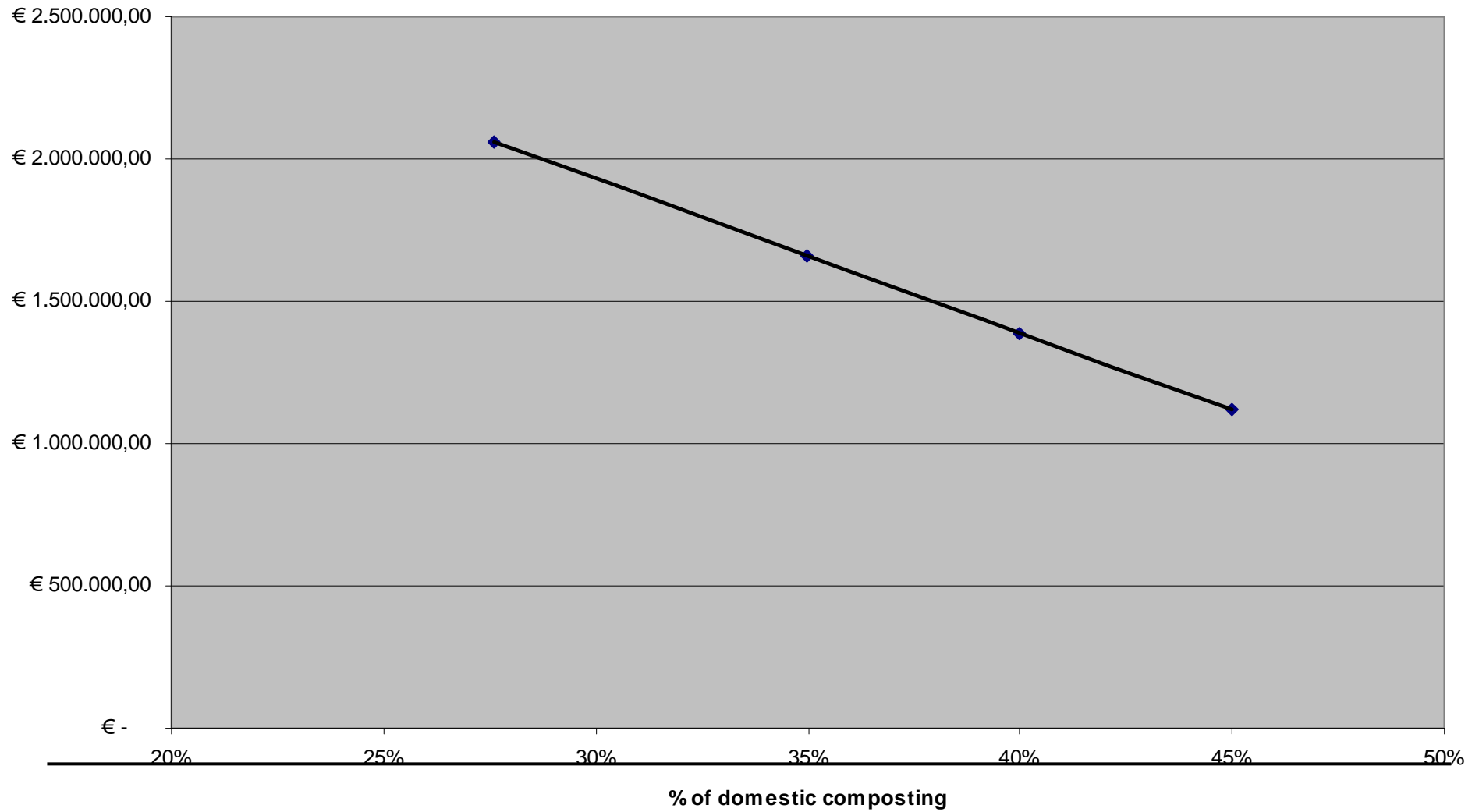
Food/ kitchen waste production Vs % domestic composting - Priula



Food/ kitchen waste production Vs % domestic composting – Tv Tre



treatment costs of organic waste vs. % domestic composting



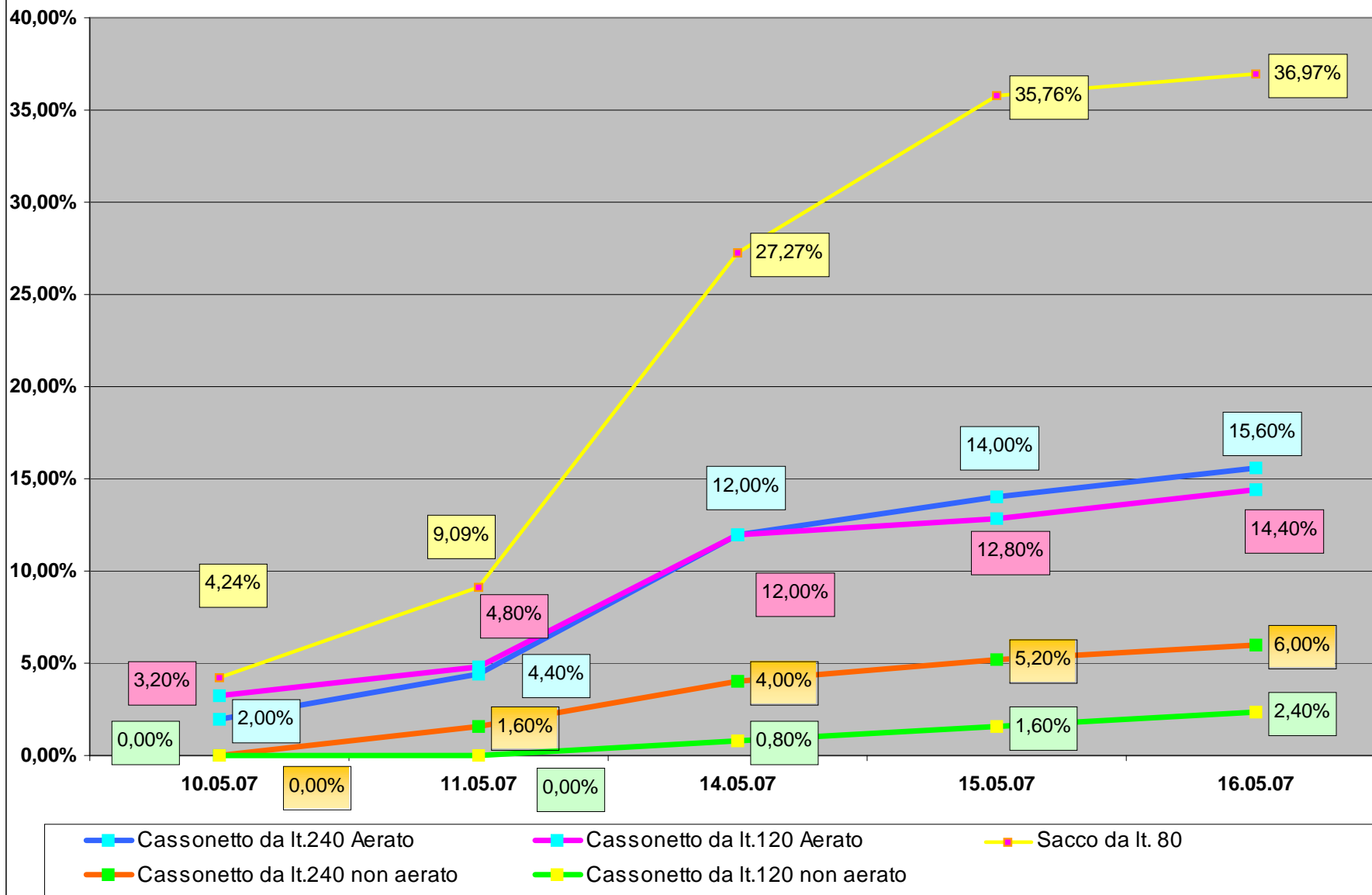
COMPOSTER PROJECT

ESTIMATED PARTICIPATING UTILITIES:

dati febbraio 2010	Totale utenze domestiche	Utenze senza compostaggio	Utenze domestiche con compostaggio già attivo	% adesione compostaggio su domestiche	% adesione compostaggio su totale utenze
PRIULA	98.163	71.403	26.760	27,26%	24,36%
TV3	88.317	66.951	21.366	24,19%	21,25%
TOTALE	186.480	138.354	48.126	25,81%	22,88%

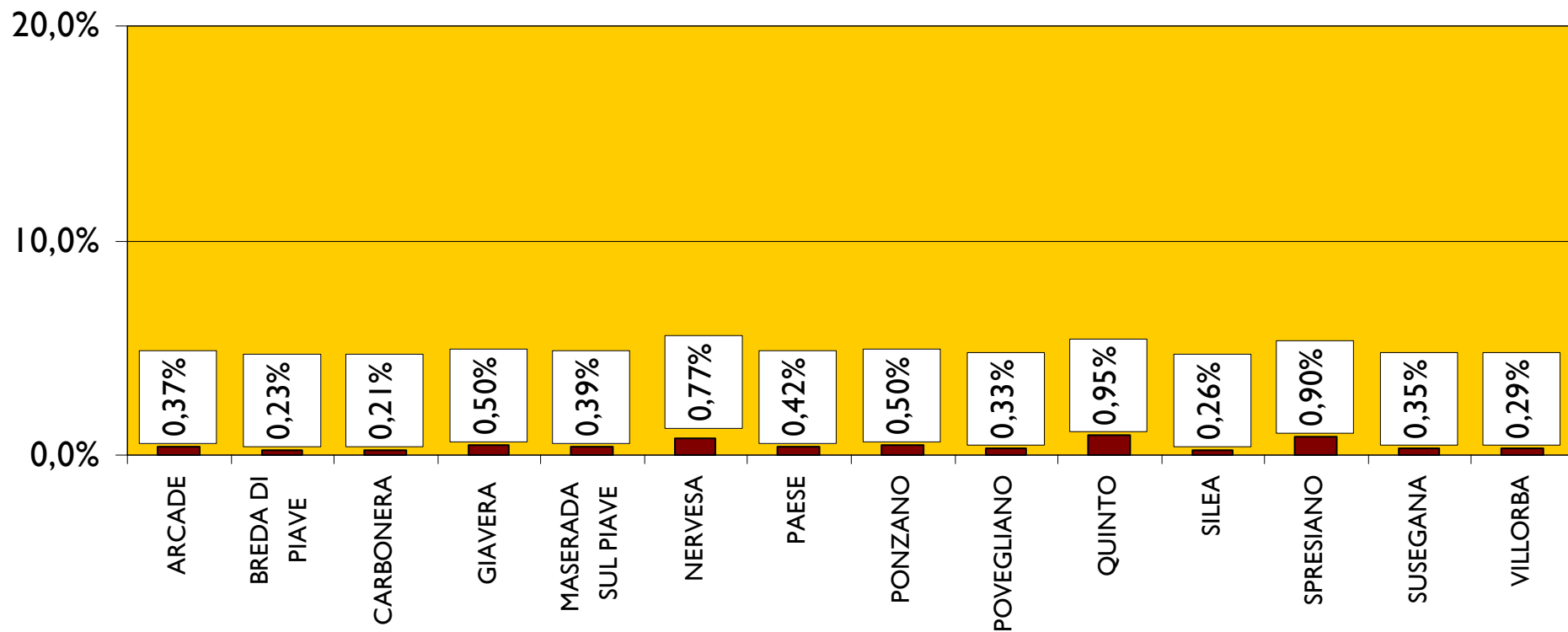
stima nuovi utenti aderenti al compostaggio		% adesione al compostaggio dopo nuova iniziativa (su domestiche)	% adesione al compostaggio dopo nuova iniziativa (su totale utenze)
0,5%	692	26,18%	23,21%
1%	1.384	26,55%	23,53%
2%	2.767	27,29%	24,19%
10%	13.835	33,23%	29,45%

4^PROVA - calo peso rispetto inizio



QUALITATIVE OUTCOME: **A BETTER FOOD WASTE QUALITY**

product impurity of food/kitchen waste



Thank you

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