

UASB

*

// : // :

UASB

()

()

UASB

mg/l COD / / kgCOD/m³.d mg/l
kgCOD/m³.d mg/l COD
% UASB mg/l COD / kgCOD/m³.d
HRT mg/l COD / kgCOD/m³.d
% / COD / /

-COD UASB

(Andreottola, et al., 1992)

Garcia et)

(al., 1996

(UASB+RBC)²

mg/l

COD .

). %

(.

(.

)

UASB

Garcia

°C

COD .

% %

/ (HRT)³ Kg COD/m³.d

%

°C

/ HRT Kg COD/m³.d

(Garcia, et al., 1996)

Kennedy

UASB (DSFF)⁴

% COD

UASB .

(.

)

HRT / / kg COD / m³.d (OLR)⁵

COD

Chang

UASB

mg/l

OLR % / /

COD .

COD / OLR kgCOD/m³.d

. % / kg m³.d

UASB Castrillon Berrueta

COD

/ kgCOD/m³.d /

(UASB)

UASB

UASB .

UASB

UASB

Garcia, et)

(al., 1996

Clostridium
)

(
CO₂ H₂ ()
(... PH)
(Bitton, 1999)

,COD
COD / %
(Torabian, et al., 2004) % COD

(H₂)
Syntrophomonas Wolfei Syntrobacter Wolinii

Shen Wang

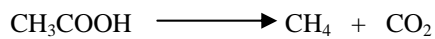
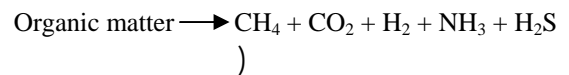
COD

(Bitton, 1999)

/ (ABR)
COD



CO₂



Lactobactillus Elostrisum Bifidobacterium
Bochterodes Streptococcus

(Bitton, 1999)

:(Bitton, 1999)

pH

()

(Bitton, 1999)

)COD
COD

(BOD

UASB

pH

COD

COD

COD

COD

pH

COD

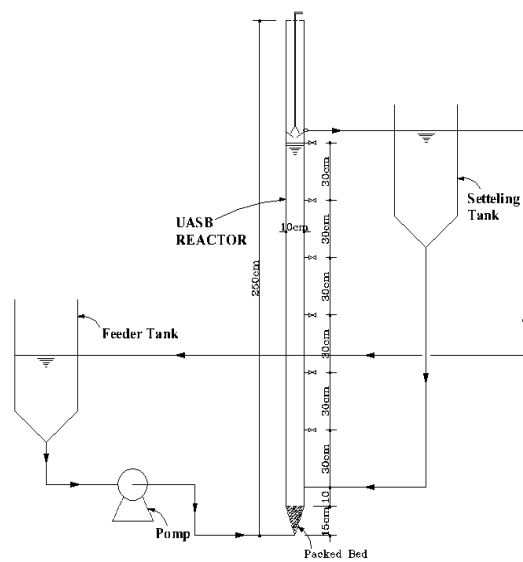
COD pH

-
-
-

UASB

UASB

PVC



UASB

UASB

:()

(mg/L)	(mg/L)	
۸۰۰۰۰	۹۰۰۰۰ تا ۷۰۰۰۰	COD
۳۱۰۰۰	۳۸۰۰۰ تا ۲۴۰۰۰	BOD
۳۸۵۰	۶۷۰۰ تا ۱۰۰۰	TSS
۲۵۵	۳۰۰ تا ۲۱۰	نیترات (بر حسب N)
۲۳۵	۲۷۰ تا ۲۰۰	نیتروژن آمونیاکی (بر حسب N)
۸۰	۹۰ تا ۷۰	فسفات
۱۸۰۰	۲۰۰۰ تا ۱۶۰۰	سولفات
۴۱۰۰	۴۴۰۰ تا ۳۸۰۰	کلراید

F/M .

F/M

UASB

F/M

+

F/M .

()

/ /

COD

pH

/

pH

UASB

()

/ kgCOD/m³.d

OLR

°C

Feeder

COD

UASB

COD

/ /

COD / gCOD/m³.d OLR
 COD % mg/l COD OLR
 Feeder OLR
 COD OLR
 mg/l COD / KgCOD/m³.d
 COD /
 % COD
 COD
 pH .
 / / pH . /
 pH .

UASB

(vss)⁹

()

COD

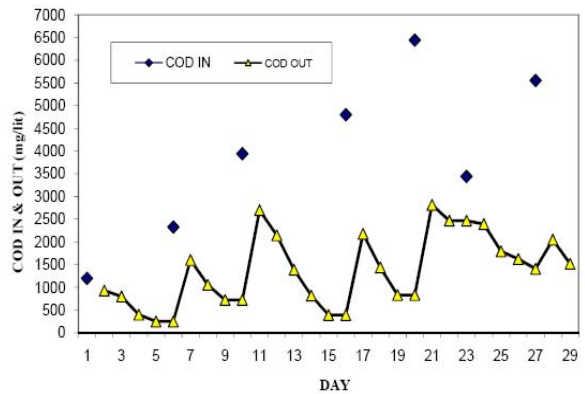
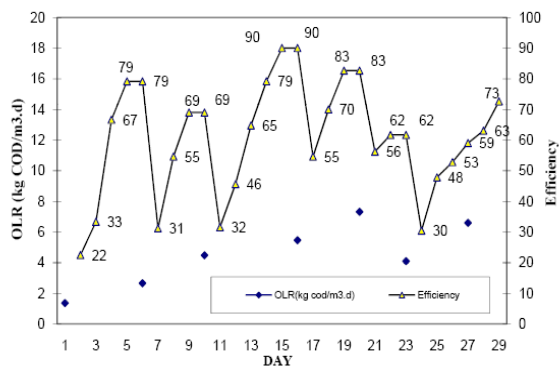
OLR .

COD

COD

/ KgCOD/m³.d

COD



COD

OLR : ()

/ Kg COD/m³.d

OLR

COD : ()

COD

mg/l

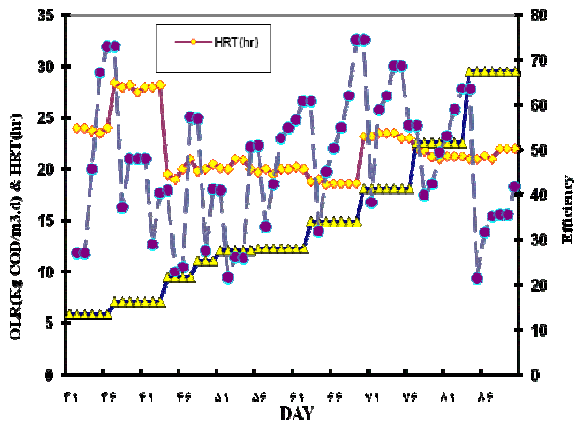
()

OLR

COD

COD

UASB



COD HRT OLR : ()

m/hr UASB
 COD OLR hr HRT / /
 Kg mg/l / KgCOD/m³.d
 mg/l / COD/m³.d
 mg/l COD / KgCOD/m³.d
 % /
 OLR mg/l COD
 % / KgCOD/m³.d

این
 زمان شیرابه جدید با قدیم مخلوط می شود تا سیستم دچار شوک
 شدید نشود.
 OLR

% COD

HRT
 ()

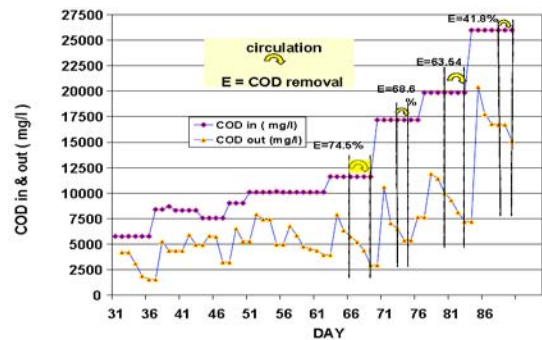
COD
 / KgCOD/m³.d OLR
 % / COD mg/l COD
 / HRT

KgCOD/m³.d (OLR)
 mg/l COD /
 % HRT
 %
 / KgCOD/m³.d OLR mg/l

UASB

mg/l COD

OLR / / hr
 % / COD / KgCOD/m³.d



COD : ()

OLR mg/l COD
 % / KgCOD/m³.d

- 1- Up flow Anaerobic Sludge Blanket
- 2- Rotary Biological Contactor

7-Batch
8-Continuous
9- Volatile Suspended Solid

3- Hydraulic Retention Time
4- Down flow Stationary Fixed Film
5- Organic Loading Rate
6- Anaerobic Baffled Reactor

UASB

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