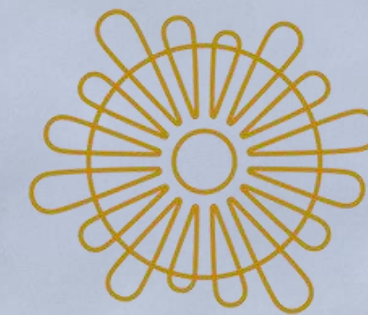




Sveučilište u Zadru
University of Zadar

Kondicioniranje Mediteranske dagnje (*Mytilus galloprovincialis*)

Odjel za ekologiju, agronomiju i akvakulturu,
Sveučilište u Zadru

Petar Zuanović, Lav Bavčević, Ivan Župan, Tomislav Šarić

Uvod



Mytilus galloprovincialis

- Sredozemno more – idealni uvjeti za uzgoj dagnji
- Optimalna temperatura: 12°C – 22°C
- Plankton = 90% hrane
- Filtracija morske vode



Ključni čimbenici rasta

Temperatura

- Metabolizam i rast
- Unos hrane
- Reprodukcijska
- Preživljavanje i stres
- Klimatske promjene

Dostupnost planktona

- Brzina rasta
- Sezonske varijacije
- Kvaliteta planktona

Slanost

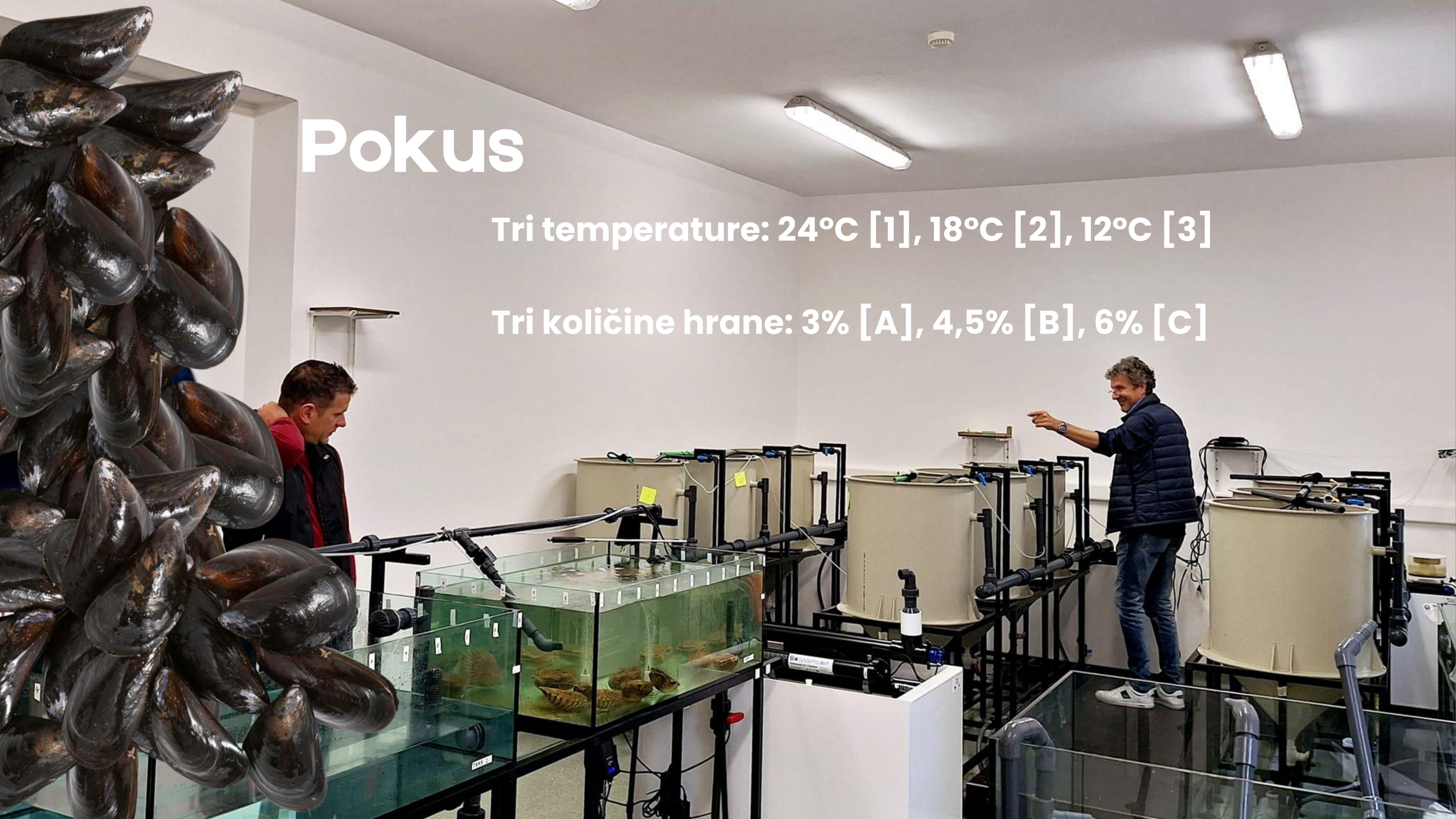
- Optimalno 25 – 35



Pokus

Tri temperature: 24°C [1], 18°C [2], 12°C [3]

Tri količine hrane: 3% [A], 4,5% [B], 6% [C]



Plankton

Tisocrisis lutea

- **Bogat masnim kiselinama** – Sadrži DHA (dokosaheksaenska kiselina, omega-3), esencijalna za razvoj školjkaša
poboljšava rast i kvalitetu mesa dagnje
- **Visok udio lipida** – 20–30% suhe mase čine lipidi; osiguravaju visoku energetska vrijednost
- **Optimalan profil proteina** – Sadrži 40–50% proteina; ključnih za rast školjkaša
- **Prirodni pigmenti** (karotenoidi);
Poboljšavaju boju mesa školjkaša i imaju antioksidativno djelovanje



Plankton

- **Poboljšava rast:**

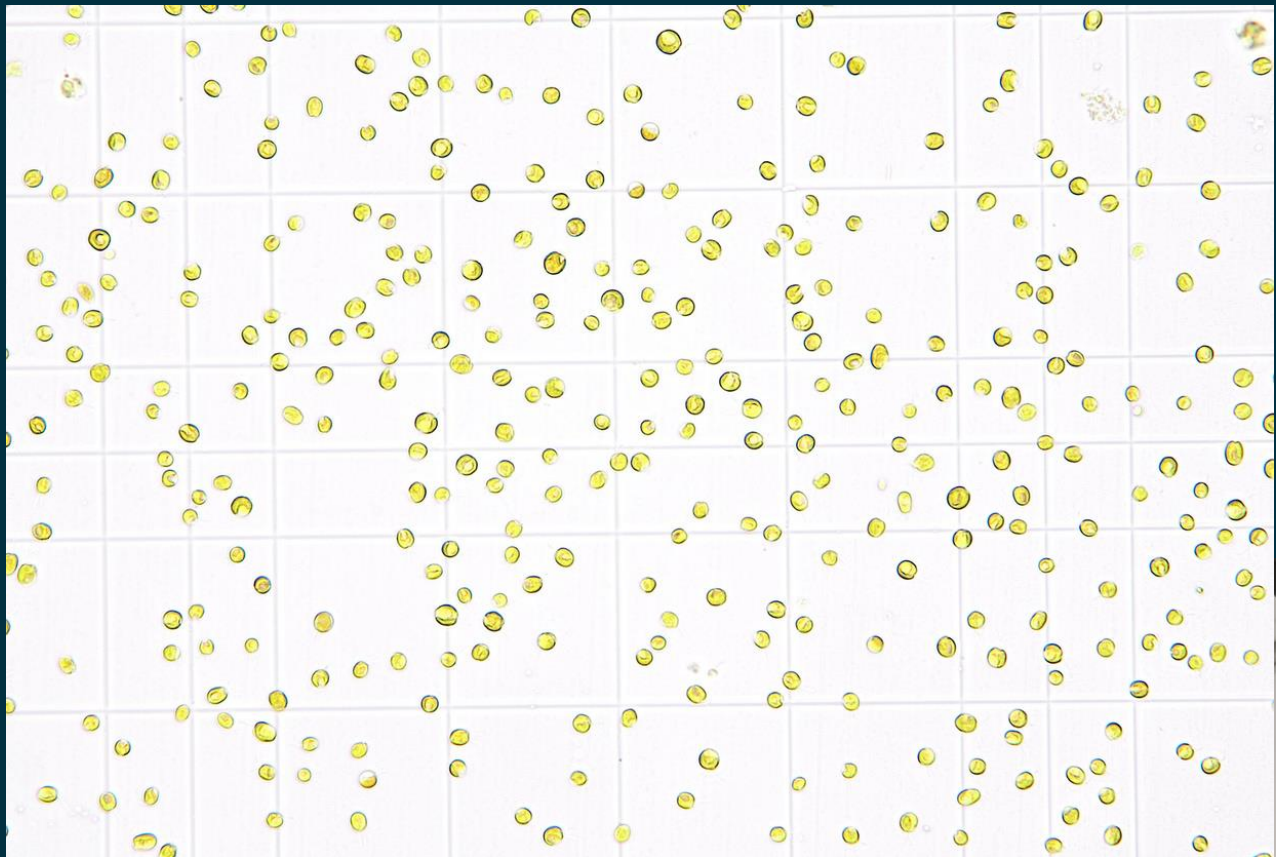
osigurava visokoenergetsku prehranu, što dovodi do bržeg povećanja mase dagnji

- **Povećava uspješnost reprodukcije:**

- dagnje koje se hrane *T. lutea* proizvode kvalitetniji gonadni materijal, što povećava uspješnost oplodnje i preživljavanje larvi

- **Jača otpornost na stres:**

Zahvaljujući visokom udjelu DHA i antioksidansa, školjkaši postaju otporniji na promjene u okolišu



Tisocrisis lutea

Nutrijent	Količina (%) u suhoj tvari
Proteini	40-50%
Lipidi	20-30%
Ugljikohidrati	10-20%
DHA (omega-3)	4-6%
Karotenoidi	0.5-1.5%



Izračun obroka

$$V = \frac{\left(\frac{P}{100} \times M_s \times 1000\right)}{C_s} \times \frac{1000}{C_p}$$

V = Volumen planktonske kulture (u litrama)

P = Postotak hranidbe (%)

M_s = Suha masa organizama u bazenu (u gramima)

C_s = Suha masa planktona po litri (mg/L, npr. 268 mg/L)

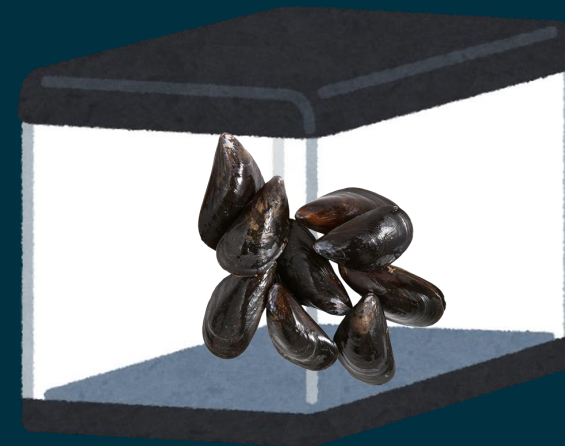
C_p = Koncentracija planktona (broj stanica po mL, npr. 10^8 stan./mL)

2 tjedna hranjenja

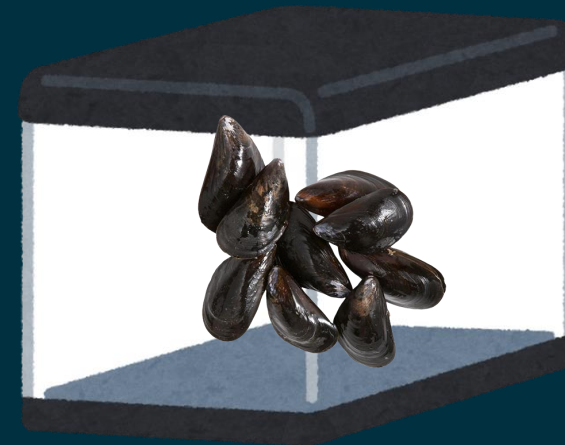
6%



4,5%



3%

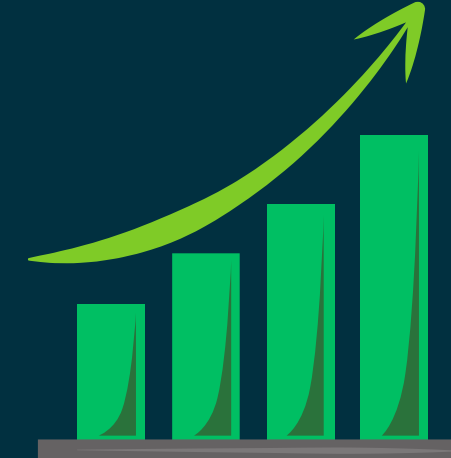


24°C

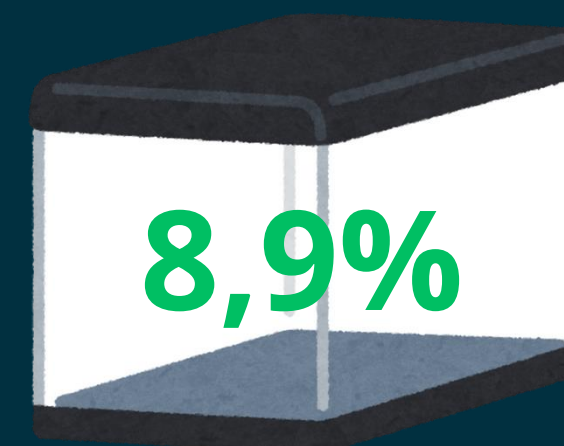
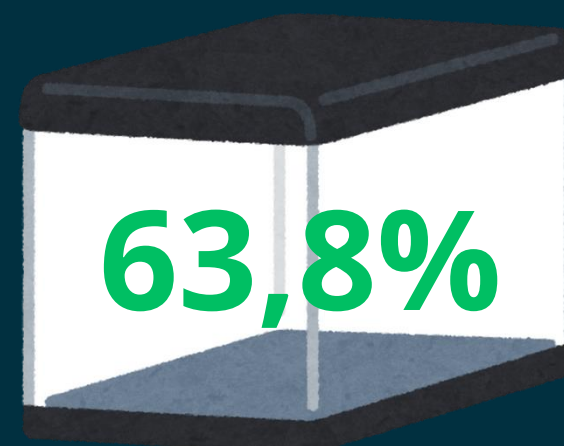
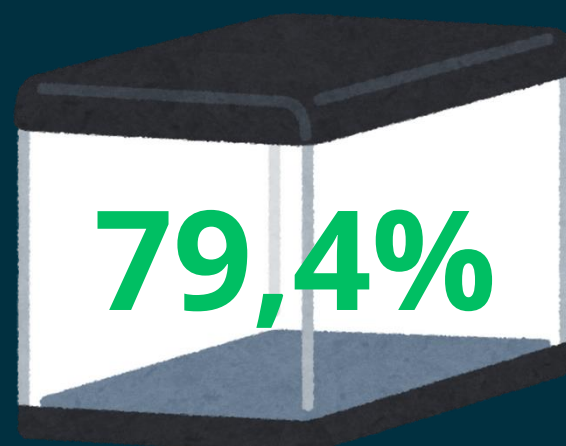
18°C

12°C

2 tjedna hranjenja

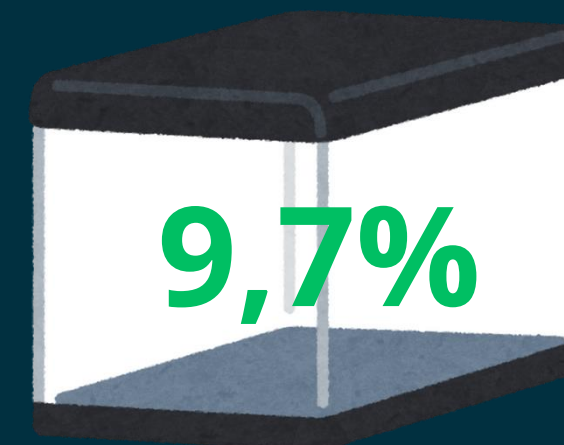
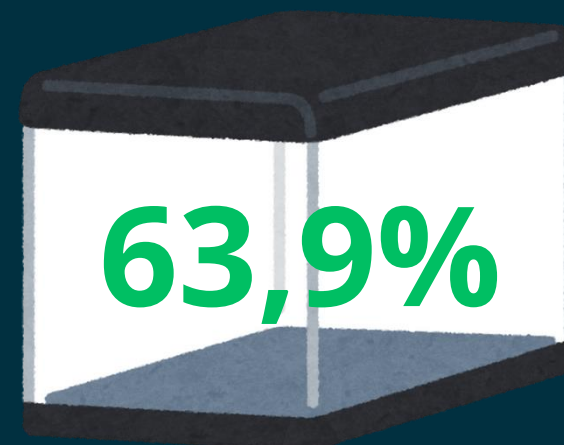
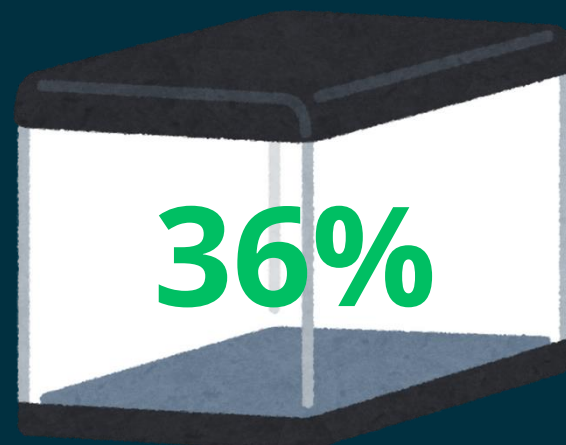


6%



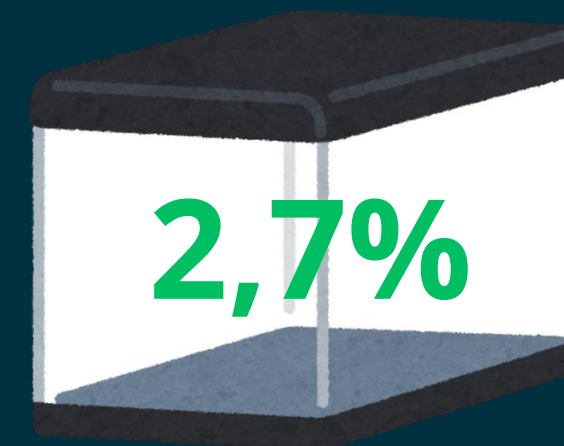
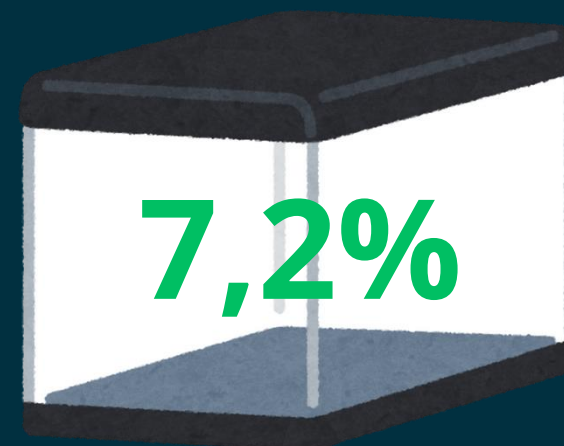
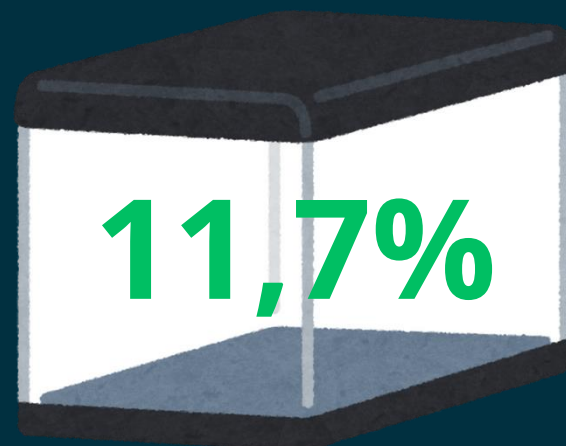
48%

4,5%



34%

3%



5,5%

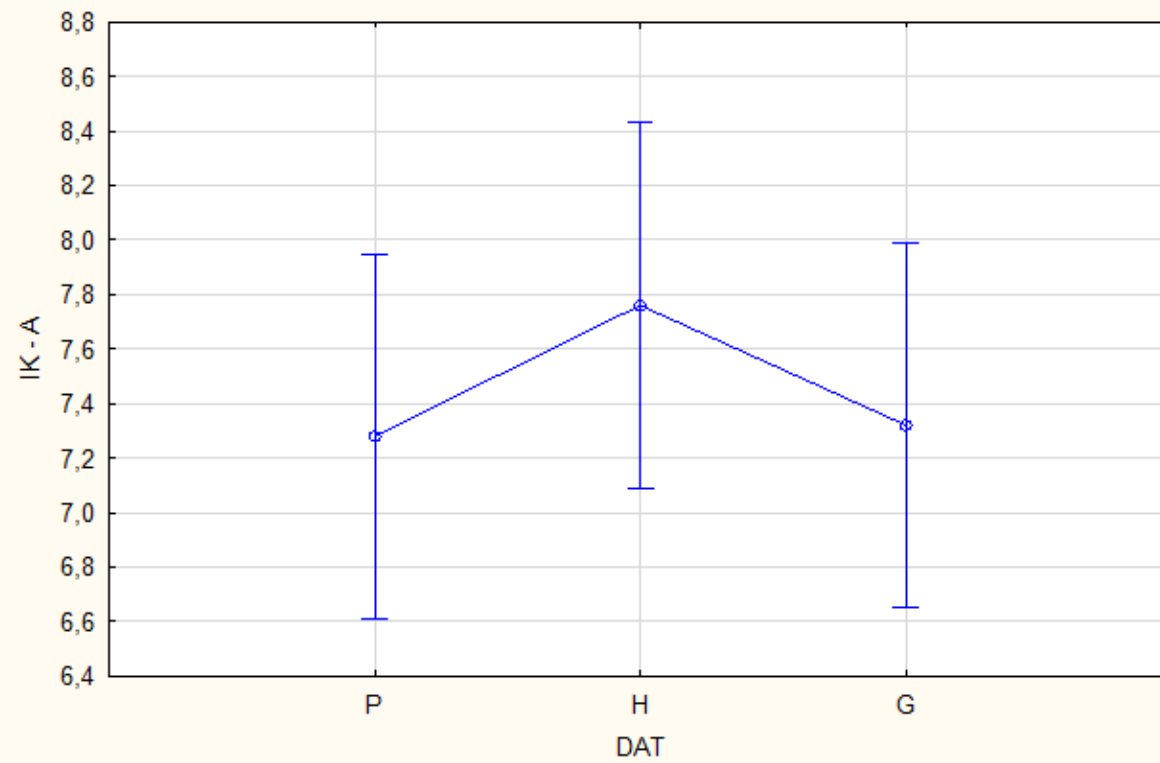
24°C

18°C

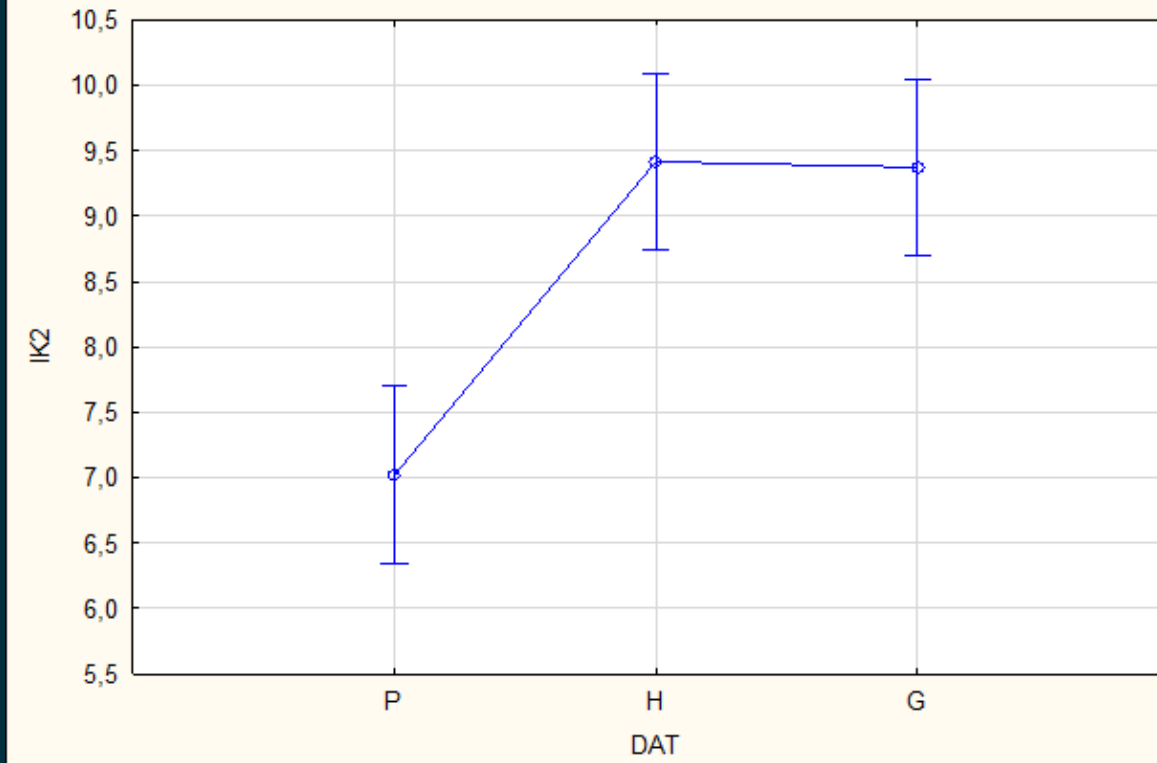
12°C

Indeks kondicije kroz vremensko razdoblje

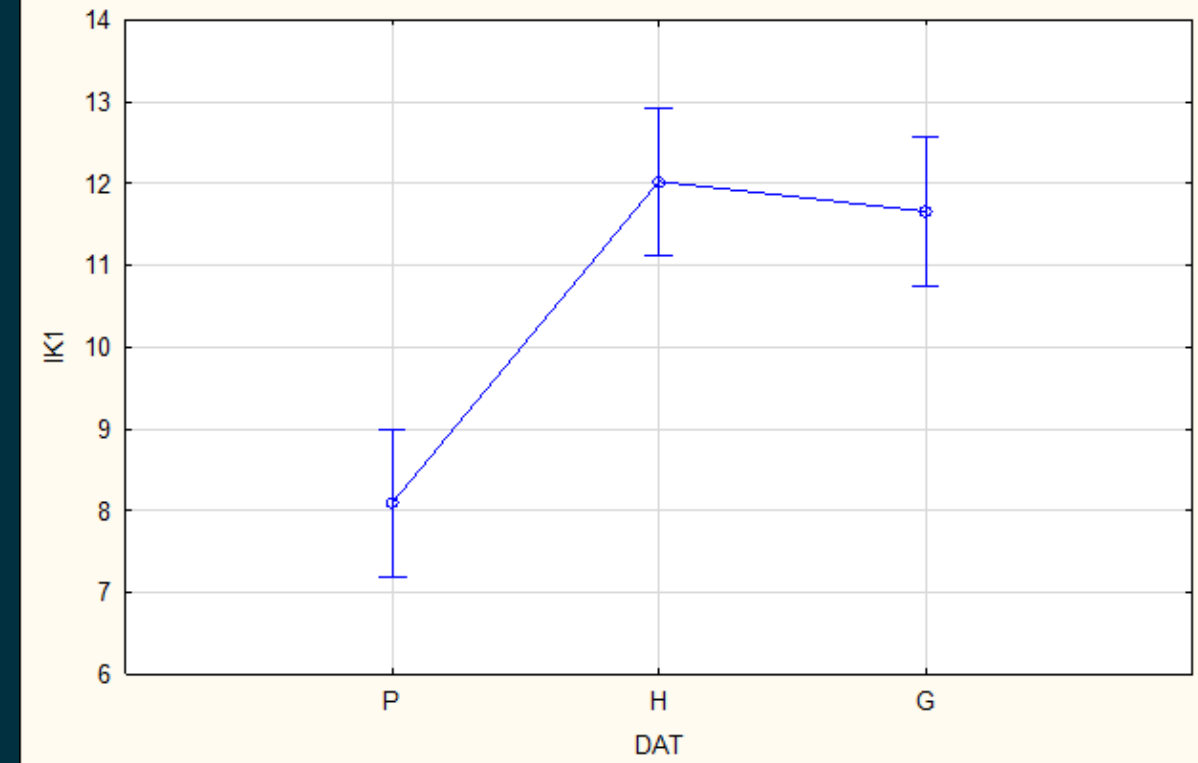
Current effect: $F(2, 130)=,62015$, $p=,53945$
Vertical bars denote 0,95 confidence intervals



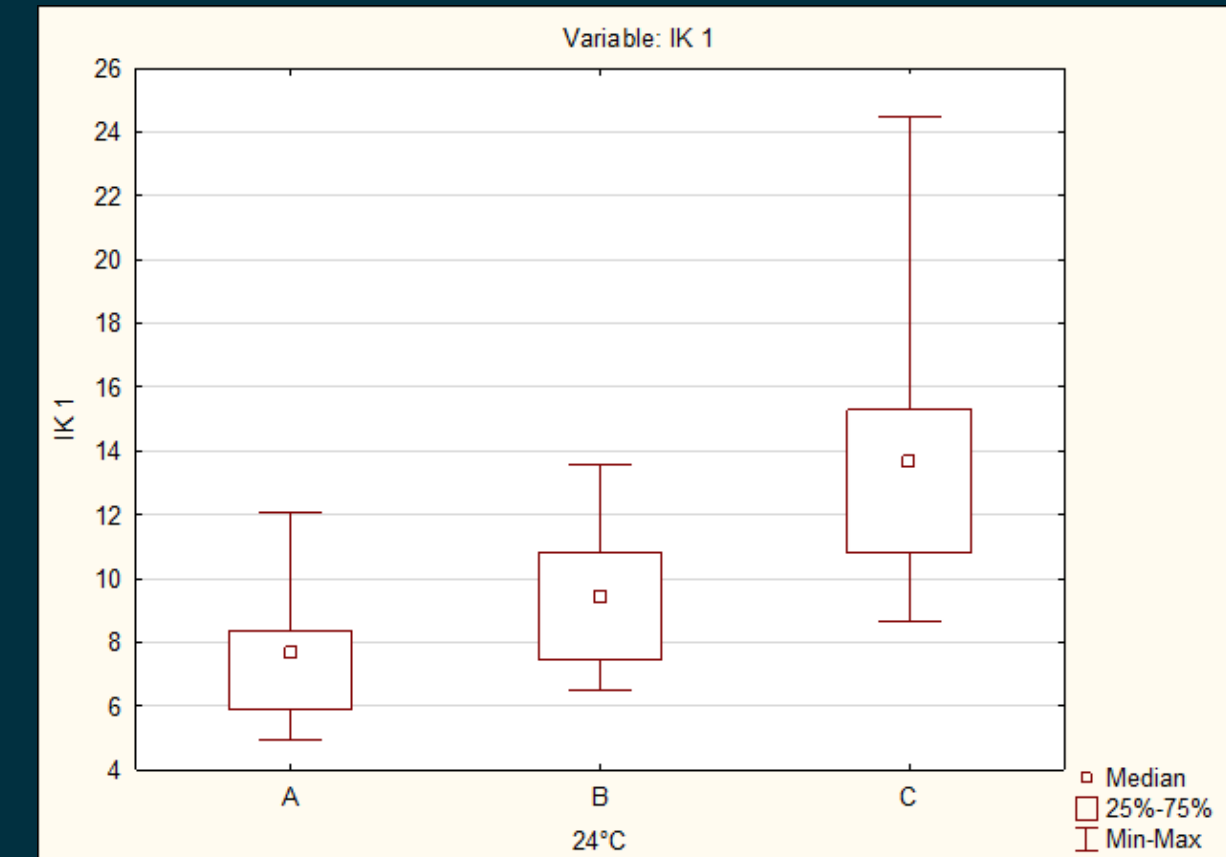
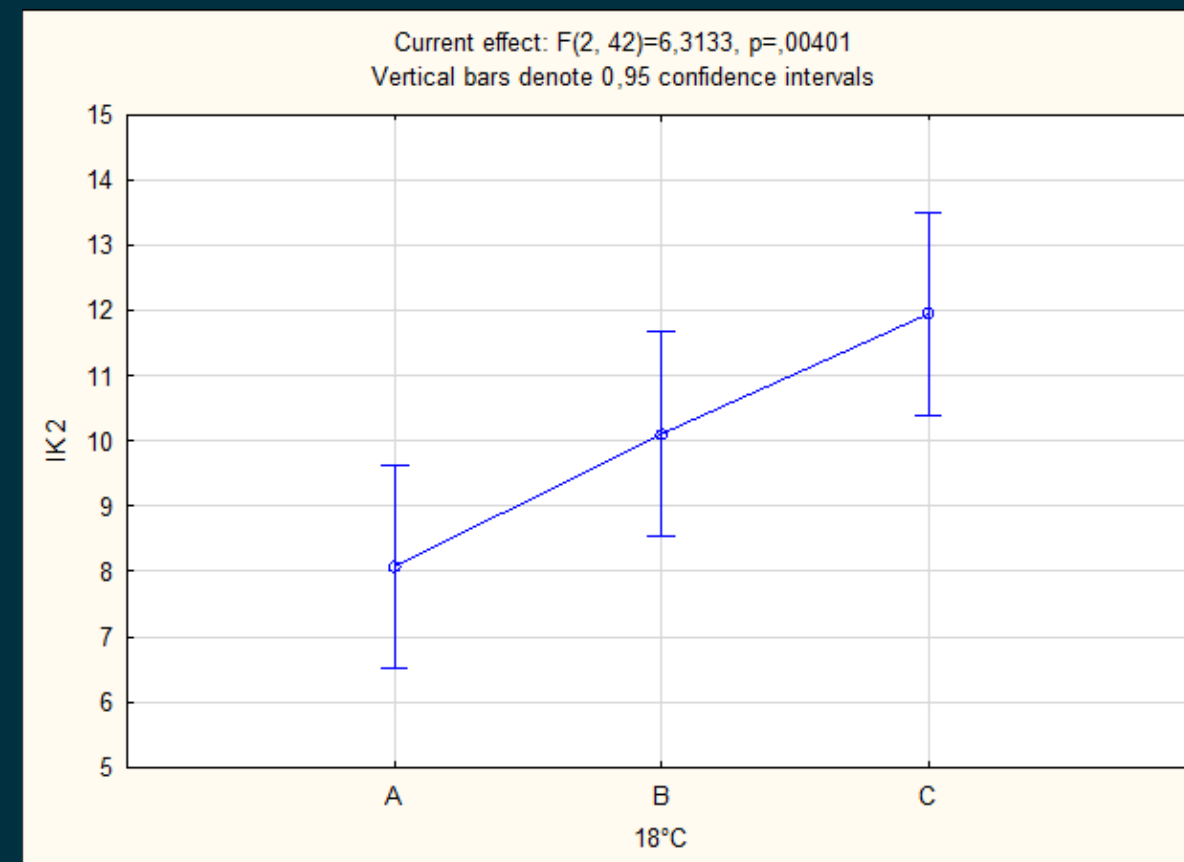
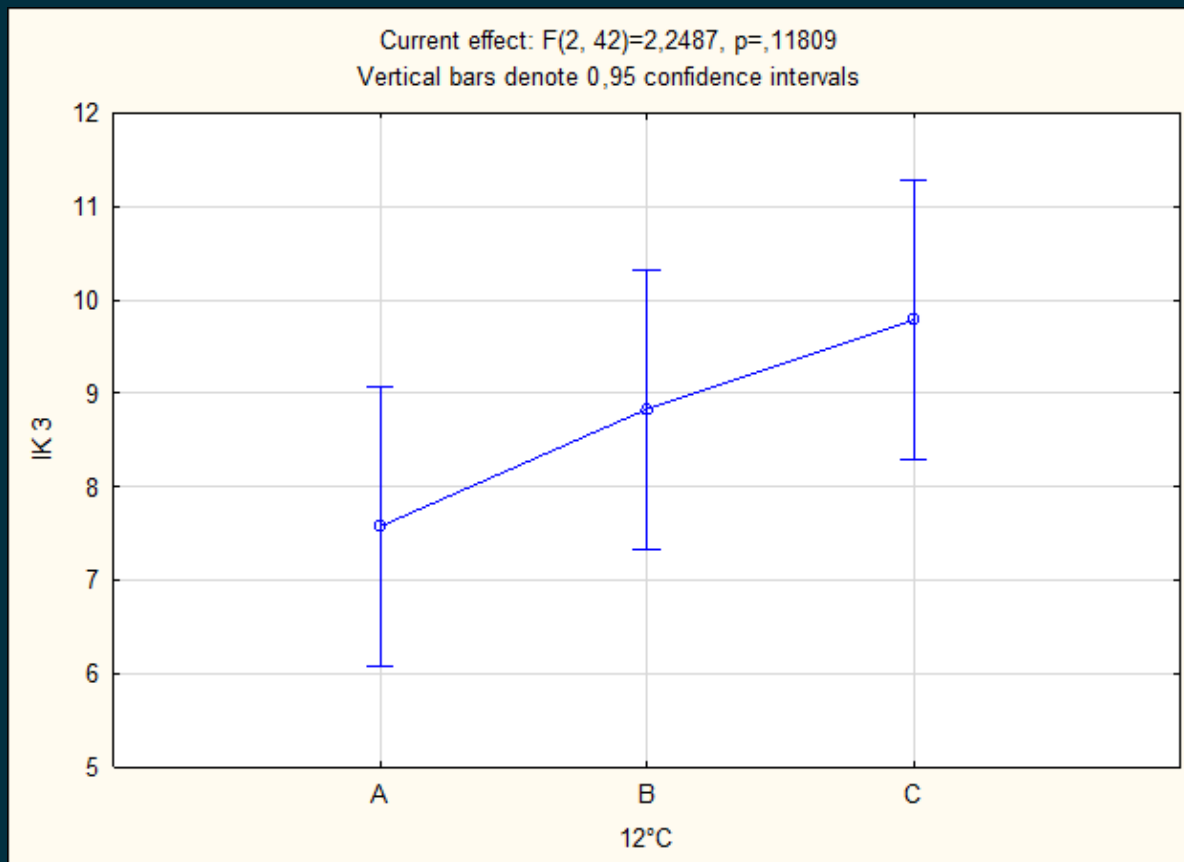
Current effect: $F(2, 130)=16,063$, $p=,00000$
Vertical bars denote 0,95 confidence intervals



Current effect: $F(2, 130)=22,559$, $p=,00000$
Vertical bars denote 0,95 confidence intervals



Indeks kondicije nakon hranjenja na različitim temperaturama u različitim režimima hranidbe



Rezultati

- Rezultati su testirani dvosmjernom analizom varijance
- Temperatura je imala znatno slabiji učinak od veličine dnevnoga obroka



HVALA NA PAŽNJI

