

OSU study: Hatcheries cause substantial, rapid genetic changes

BY DAVID STAUTH
Oregon State University



A new study shows genetic differences between hatchery-raised fish and wild steelhead like these.

can be genetically different.

Differences in survival and reproductive success between hatchery and wild fish have long offered evidence of rapid adaptation to the hatchery environment. This new DNA evidence directly measured the activity of all genes in the offspring of hatchery and wild fish. It conclusively demonstrates that the genetic differences between hatchery and wild fish are large in scale and fully heritable.

"A fish hatchery is a very artificial environment that causes strong natural selection pressures," said Michael Blouin, a professor of integrative biology in the OSU College of Science. "A concrete box with 50,000 other fish all crowded together and fed pellet food is clearly a lot different than an open stream."

It's not clear exactly what traits are being selected for, but the study was able to identify some genetic changes that may explain how the fish are responding to the novel environment in the hatchery.

"We observed that a large number of genes were involved in pathways related to wound healing, immunity and metabolism, and this is consistent with the idea that the earliest stages of domestication may involve adapting to highly crowded conditions," said Mark Christie, lead author of the study. Aside from crowding, which is

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COMMUNITY BRIEFS

LWV to meet

The Cottage Grove League of Women Voters will be hosting a unit meeting Wednesday, March 9 at 2:30 p.m. at Lane Community College in Cottage Grove. The discussion this month will be focusing on "What's Happening in Cottage Grove", including the local food movement, economic development, healthy kids in a healthy community, homelessness and collaborative efforts to increase the livability of the community. The unit meetings are always open to guests.

Caregiver Network meets

The first Monday of every month includes a care-giving meeting and potluck at the Cottage Grove Bible Church at Quincy Avenue and 12th St. in Cottage Grove, from 11 a.m. to 1 p.m.

The group aims to serve the community as a resource pool of home-care workers who are available, local and experienced and have state provider numbers. It also offers services that don't require an agency and can at times help care-givers learn about available job opportunities.

Its next meeting will be on Monday, March 7 at 11 a.m. The guest speakers are from Cornerstone Services, Inc., a non-profit corporation, which is a professional fiduciary company. The company manages persons and their

estates by acting in a fiduciary role as Conservator, Guardian, Trustee or Power of Attorney.

Attendees can feel free to bring a friend and/or their client. Those seeking more information can contact a network coordinator: Shirley McDaniel at 541-232-0966 or Virginia R. at 541-942-3108.

Traffic study

Southern Oregon University MBA students are working with the Oregon Department of Transportation to study the incidence of distracted driving in Oregon. The department's aim is to help reduce crashes involving distracted driving. By volunteering to complete this anonymous survey, participants will be providing valuable feedback!

Those interested can visit the link below to begin the survey:

https://sou.co1.qualtrics.com/SE/?SID=SV_5oHxFY8TDPHkK7b

912 meeting

Cottage Grove's Beth Pool will discuss FEAST (Food Education Agriculture Solutions Together) at the next meeting of the Cottage Grove 912 Project on Monday, March 7 at 6:30 p.m. at Stacy's Bridge Restaurant, 401 E. Main St. FEAST is an Oregon Food Bank program in rural communities. This meeting is open to the public.

DATES

Continued from page 7A

"expiration date" stamped on the carton is the last day a retailer can sell the eggs as fresh. Eggs are still considered safe to consume up to five weeks if they are held in refrigeration after purchase at 40 degrees or colder.

ODA food safety inspec-

tors do pay attention to certain dates on products offered for sale. Looking at the potentially hazardous ready-to-eat foods that are unpackaged or prepared in the store is a high priority and violations are considered critical.

Retailers and suppliers are usually motivated to observe these dates and clear out

the old stuff while bringing in the new.

"It's not 100 percent but, for the most part, grocery stores are keeping a close eye on those products," says Hawkins. "Between the distributor of the product and the store itself, they are in there rotating products."

For consumers, the bottom

line is that food product dates are worth paying attention to but not necessarily for food safety reasons. Those dates can help ensure the food you buy retains its quality. Of course, a lot depends on how the food is handled after purchase and how quickly it is consumed.

Celebrate beauty

HAIRSTYLES

Five must-have styles as seen at fashion shows

1. MESSY HAIRSTYLES

If you hate spending lots of time doing your hair, you're going to love this style. The ultra-neat heads of last winter are giving way to long, unruly locks. We'll be seeing lots of low-slung messy braids and strands that casually frame the face. The key word here is texture. Dry shampoos and texturizing pastes are going to be your best friends this spring.

2. THE PONYTAIL

Seen virtually year-round in all its various forms, the ponytail is still hot this spring. Keep up with the latest trend by wearing it very low and crimping a few strands of hair here and there with a styling paste.

3. WHERE TO PART?

This spring, no half measures: the part is either right down the middle of the head or low on the side. If you wear a middle part, tuck your hair behind the ears. The side part is drawn very close to the ear and can be incorporated into a messy style or a very smooth, low bun.

4. ROMANTIC WAVES

The fashion parades have made it very clear: this spring, flat irons are out. Waves and natural curls are to be in the spotlight when wearing your hair loose. If your hair often loses its body as the day goes on, concoct your own "beach effect" spray by mixing salt, water and coconut oil.

5. COLOUR 2.0

If you enjoy experimenting with colour, take notes. Pastel colours are gradually losing ground to more striking shades such as electric blue or forest green. A rather unusual trend: natural tones combined with brightly coloured roots for a cutting edge look. What's more, wide gray streaks are making their appearance near the face. Are you going to be daring and show your true colours this year?

Five trends to try this spring

1. A CANDY PINK MOUTH

A hot trend at many of this season's fashion shows, pink is set to take over your lips. Choose a bubble gum shade for a deliciously fresh and colourful mouth. The most adventurous among us will dare to try an orangey pink for a totally energized look.

2. SMOKY EYES, ALWAYS AND FOREVER

The smoky-eyes look always has a place in makeup trends, no matter what the season. This spring, refresh your smoky eyes with eye shadow and eyeliner in blue (THE trend), gold, copper or mauve.

3. EYEBROWS: GO FOR BROKE

For the most part, we're seeing eyebrows continue to do exactly as they please, sometimes arched and thick, sometimes lacquered and shiny. But for some fashion avant-gardists, eyebrows are taking on a futuristic look with a bleached-out effect.

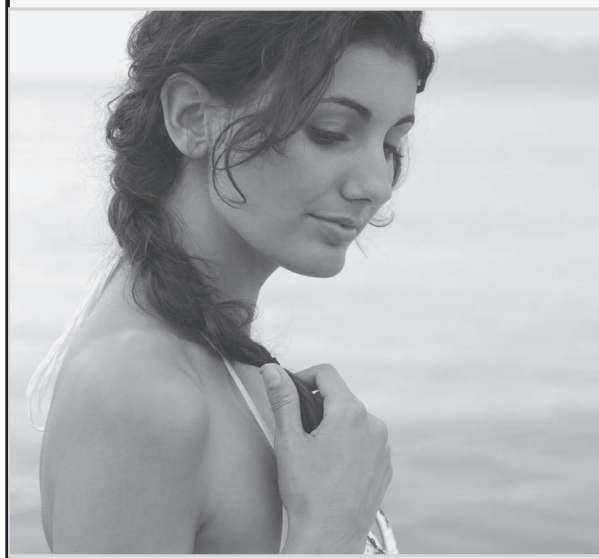
4. THE RETURN OF THE 1960S

Several key elements of the 60s are in again these days. Think doll-like eyelashes, opaque eye shadow and the lower eyelids lined with kohl, as popularized by the famous 60s model Twiggy. White also works well to brighten eyes.

5. A HEALTHY COMPLEXION

After dominating catwalks for several seasons, the nude effect is giving way to a healthy glow. Lay your bets on pink blush applied to the cheekbones. The goal is to create a fresh, natural look.

A fresh look is still popular for summer makeup.



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