

#HEALTH

Healthier Chips & Fries

Preserving spuds in cold storage ensures chip and fry producers to have what they need, but the low temperatures also trigger a process called cold-induced sweetening, or CIS, which converts starches to sugars. Processing tubers, loaded with sugars, result in darkened fries and chips.



Researchers have discovered a key mechanism behind the darkening and potential health concerns associated with cold-stored potatoes.

The findings hold promise for the development of 'potato varieties' that could be stored under cold temperatures and lead to healthier and tastier chips and fries.

These snacks have a market worth billions of dollars. But farmers can't grow the crops year-round and snack makers need a constant supply of fresh spuds to meet their demands.

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But farmers can't grow the crops year-round and snack makers need a constant supply of fresh spuds to meet their demands. Preserving spuds in cold storage ensures chip and fry producers to have what they need, but the low temperatures also trigger a process called cold-induced sweetening, or CIS, which converts starches to sugars.

Processing tubers, loaded with sugars, result in darkened fries and chips. It also generates acrylamide, a carcinogenic compound formed during high-temperature processing, which has been linked to health concerns including an increased cancer risk.

Although there are techniques to reduce the impact of sugars in cold-stored tubers, these add cost and can affect the flavour of the final product. So Jiming Jiang, a professor in the Plant Biology and Horticulture department at Michigan State University, and colleagues have focused on the root of the problem to work towards 'potatoes' that aren't affected by CIS to begin with.

"We've identified the specific gene responsible for CIS and, more importantly, we've uncovered the regulatory element that switches it on under cold temperatures," explains Jiang. "By studying how this gene turns on and off, we open up the possibility of developing 'potatoes' that are naturally resistant to CIS and therefore will not produce toxic compounds."

Jiang has dedicated his career to solving this puzzle. As one of the most pressing issues in the potato industry,



IAF in the Burma Campaign

As IAF pilots proved themselves in battle, several of its Squadrons were equipped with the latest Spitfire and Hurricane fighters. Some Squadrons like No. 8 Squadron had one flight of Indian pilots, with another flight manned by pilots from Britain and other Commonwealth countries like Australia, New Zealand and Canada. Amongst the various missions, that were flown, were daring counter-air missions against Japanese airfields in Burma, by innovatively strapping-on 500 and 250 lb bombs on the most unlikely of aircraft, the slow-moving Lysander, interdiction missions against Japanese logistic lines by the faster Hurricanes and Spitfires, visual reconnaissance missions, and close-air-support missions by Hurricanes and Vultee Vengeance fighter-bombers against advancing Japanese columns.



Indian Air Force Pilots, after a mission in Burma, during WW II.



AVM (Dr) Arjun Subramaniam AVSM (Retd)

The Indian Air Force truly came of age during the Burma Campaign. It was involved right through the campaign, from the gloomy days of early 1942, to the time when Assam was being threatened, in 1943, by the Japanese advance across the Chindwin River. The stirring exploits of the IAF in the defence of Kohima and Imphal have gone down in aviation history as amongst the 'most effective counter-attacking aerial campaigns' that contributed to the stirring campaign of Slim's XIV Army that turned 'defeat into victory' for the Allies in 1944.

After almost six years in the NWFP, No. 1 Squadron, IAF, re-equipped with the slow-moving Lysander aircraft and modified to carry 500 lbs bombs, moved to the Burma theatre in February, 1942 with 12 aircraft to counter the rapidly advancing Japanese, carrying out daring missions under their young Squadron Commander, 'Jumbo' Majumdar. Operating from a forward airfield called Toungoo, it was, at the time, the only IAF Squadron in the area. A

daredevil aviator with stirring leadership qualities, Jumbo led a series of successful offensive strikes against numerous Japanese airfields, with and without any fighter escorts against the vastly superior Japanese Zero fighters. However, as the Allies willed against the Japanese onslaught, Jumbo's Squadron first moved to North Burma (Lashio) to carry out aerial reconnaissance of the critical logistics link between Burma and China, in support of Chiang Kai-Shek's Chinese 5th Army, before finally withdrawing back to India in mid-1942 and converting onto Hurricane fighter bombers. For his exploits in Burma, 'Jumbo' was the first Indian pilot to be awarded the Distinguished Flying Cross in WW II for his 'leadership and daring individual prowess.'

From 1942 to 1945, nine Squadrons of the Indian Air Force (1,2,3,4,6,7,8,9 and 10 Squadrons), flying a variety of aircraft including Lysanders, Vultee Vengeance Dive Bombers, Hurricanes and Spitfires, flew over 16000 sorties and 24000 hours, in support of various battles of the Burma Campaign.

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In what is arguably one of the best narratives of the IAF's exploits in the Burma Campaign, Air Chief, Marshal Lal, in his book, 'My years with the IAF', is very generous in his praise for his contemporaries. He wrote about Arjan Singh, who preceded him as Chief of the Air Staff and later became the first Marshal of the IAF. "The first person, to actually see the Japanese in the Northern part of Imphal, was Sqn Ldr Arjan Singh. He had been out on a sortie, attacking the Japanese elsewhere and he was coming back to base. He saw on a hilltop, overlooking his airfield, a number of men in a strange uniform. So, he went close to have a look and he recognised them as Japanese troops." They were on the top to have a look. He immediately called out his entire Squadron on his own initiative. He

was the first to attack the Japanese, who had actually arrived on the outskirts of Imphal. He and his boys were the heroes of Imphal."

Lal himself, though was no bystander in Burma, flew the Vultee Vengeance dive-bomber with 7 Squadron for a year, before going on to command it in 1944 and converting it onto the Hurricane in early 1945, the aircraft being specially modified for the fighter-bomber and reconnaissance roles. His Squadron stayed in Burma till victory was achieved, with the fall of Rangoon in May 1945. Both Arjan Singh and Lal were awarded DFCs for their 'inspiring leadership' of their respective Squadrons.

Another IAF Squadron, that operated in the shadow of No. 1 Squadron during the Burma Campaign, but performed equally brilliantly, was No. 6 Squadron, led by the indomitable Squadron Leader, Mehar Singh. Equipped with Hurricane fighters and comprising a bunch of free-spirited pilots and an elephant as its 'masoc' for much of its time in Burma, the Squadron carried out reconnaissance, staffing and bombing missions on the Arakan front. Moving from Trichinopoly in Tamil Nadu, where he raised the Squadron to Cox's Bazaar on the East Bengal coast, on 1st

#BAPTISM BY FIRE



November 1943, Mehar Singh and his boys flew over 1500 hours till the end of war, supporting the 5th and 7th Indian divisions in their offensive and defensive operations. Mehar Singh was the only Indian pilot to be awarded the Distinguished Service Order (DSO) during WW II for his leadership of 6 Squadron in the Burma Campaign.

Viscount William Slim of Burma, in his inspirational memoirs of the Burma campaign, 'Defeat into Victory' fondly recalls the performance of No. 6 Squadron, led by Mehar Singh. The Squadron was employed in the Arakan region as the 'Eyes of the 14th Army.' Viscount Slim writes, "I was impressed by the conduct of a Reconnaissance Squadron of the Indian Air Force (it was none other than No. 6 Squadron, commanded by Squadron Leader Mehar Singh). Flying in pairs, the Indian pilots in outmoded Hurricanes went out, time and again, in the face of overwhelming fighter superiority."

An analysis of the air-land battle, fought in the Burma campaign, spearheaded in no small measure by the Indian Air Force, cannot but be compared with the

exploits of Air Marshal Tedder's Royal Desert Air Force and its contribution to the victory of Montgomery's Eighth Army over Rommel's Afrika Korps. Both air campaigns were 'in the nick of time' campaigns that blunted the enemy's advantage by exploiting the critical characteristics of air-power like reach, surprise, offensive action and psychological shock. Both campaigns exploited the entire range of what was called 'tactical air operations,' driving home the importance of reconnaissance, deep interdiction and close-air support in influencing the course of the land battle. While 'Tedder's air-land battle campaign of World War II' would be used as a standard template for the development of Western air-land doctrines in the years ahead, the IAF's air-land battle campaign, in the jungles of Burma and their experiences of 'mountain and valley warfare' in NWFP were never built on as doctrinal development and have remained as 'historical narratives.'

Apart from expanding in 13 years from a force of four aircraft to 160 aircraft and 'experiencing vital battle experience in joint operations,' the development of airfields, infrastructure, maintenance philosophy, communications and air defence systems in the North-Eastern parts of India (to support Allied operations) gave Indian officers the much-needed exposure to build a Modern Air Force.

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International Polar Bear Day

Polar bears are furry and majestic beasts that roam across the cold Arctic ice. However, in the past few decades, sea ice in the Arctic has been melting at an alarmingly fast rate, leading the polar ice cap to shrink over time. Because of this, polar bears have been losing their habitats, their sources of food and, ultimately, dying from starvation and exhaustion. International Polar Bear Day aims to raise awareness of the issues threatening these creatures and encourage change.



Lysander.



Vultee Vengeance- Aeropedia- The Encyclopedia of Aircraft.

Arakan Sea, off the coast of Burma to the Car Nicobar Islands, right in the middle of the Andaman Sea. Mainly comprising reconnaissance missions by Catalina flying boats and Liberator bomber aircraft, these operations, in early 1943, were necessitated by the aggressive interest, shown by the Japanese, which resulted in their subsequent capture of the Andaman and Nicobar Islands.

While the main contribution of the IAF in WW II was in the Burma Campaign, the exploits of a few Indian pilots and navigators, who flew with the RAF in Europe and Africa, cannot be forgotten. 24 young Indian pilots went to England in 1940 to fly with the RAF. Most of them would take part in air operations after the Battle of Britain in Fighter, Bomber and Coastal Command. Though, there were very few Indian pilots in the RAF and USAF Transport Squadrons who operated from airfields, in Eastern India, in support of the Burma and China operations, the impact of these operations had a significant influence on future IAF commanders like Arjan Singh, P.C. Lal and Mehar Singh, who were operating in that theatre. Many illustrious fighter pilots like Mehar Singh and K.L. Bhatia would go on to spearhead the IAF's transport fleet, in the years after independence.

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Japanese advancing.

#GAMING

What To Play?

Here's what you should be playing on your PC



As the world of console gaming has caught up with that of PC games, from a technical perspective, the identity of a 'PC game' has been muddled. It has helped make more types of games available to more players, which is a net positive. But it has also created a burning question: What makes a 'PC game' in 2024?

To answer that question, or rather, to show how superfluous that question has become, we have compiled a list of games that define the exciting, amorphous experience of playing games on PC in 2024. Some of these are available on other platforms, and some are just as good with the controller as a mouse and keyboard.

Without further ado, here are the best PC games that you can download on your PC today.

Against the Storm

Against the Storm is a city builder, where you start over constantly. It's a daring choice to kill a sacred cow of the city building genre, which typically has the player devote all their hours to one single, sprawling metropolis. Instead, Against the Storm wants you to focus on that first hour of city building, the 'early game,' when you discover the resources you'll be depending on, when you lay down the roads that will define its shape, and when you become intimately familiar with the needs of your citizens.

What makes Against the Storm so ingenious is how it makes this an 'engaging challenge' every single time through perfectly balanced rogue-like mechanics. You never know exactly what citizens you'll have, what quests you'll need to complete or what resources you'll

Destiny 2

Destiny 2 combines a typical loot-



find, so you'll have to adapt.

Age of Empires IV

Age of Empires IV will likely never replace Age of Empires II, The Age of Kings in the hearts and minds of strategy gamers. However, AOE4 does bring some interesting wrinkles to the familiar setting and gameplay allowing it to stand capably on its own, despite living in the shadow of a legend. Beyond the reimagined gameplay, creating a new game from whole cloth gave Relic the opportunity to imbue AOE4 with a distinct style of its own. Having the 'native languages of your civilization' change as you advance through the ages, or replacing 'the fog of war' with a rudimentary map are just some of the stylistic choices that set AOE4 apart. While the base game only features ten civilizations compared to AOE2's forty five, each of the playable empires is much more distinct.

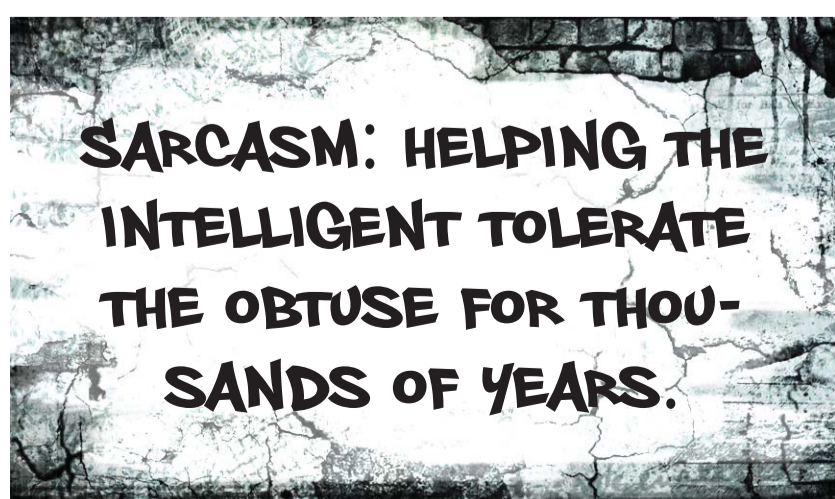
Dwarf Fortress

If you're ever in the mood to play god, you can do a lot worse than playing Dwarf Fortress. As the title might suggest, this is a simulation/management game about building, optimizing, over-seeing, and, accidentally or not, destroying a fortress full of dwarves. What the title doesn't tell you is that you'll have to consider the region's soil type, elevation, and weather patterns. You'll also have to take the attributes of each of your seven starting dwarves into account, their skill sets, physical characteristics, and mental dispositions. After beginning the construction and management, in each new randomly generated world, you set about growing your colony and observing, as any number of unforeseen factors can go well or very, very wrong.

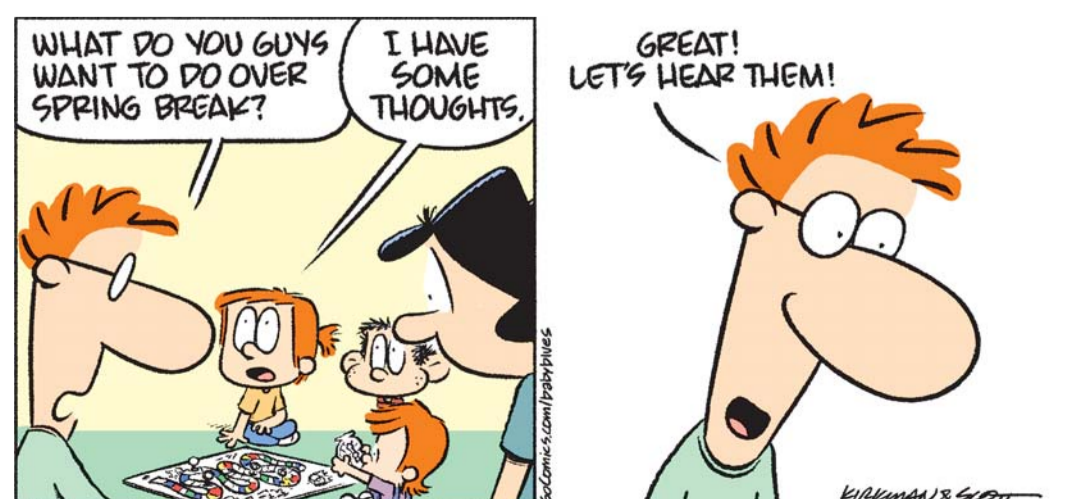
Elite Dangerous

Elite Dangerous may be old, but she's got it where it counts, kid. The space-faring MMO has everything, you could possibly want in a game, of its type, it's just that some of the bits are a little better than others. The first-person shooting, for instance, is just okay. But Elite more than earns its spot on this list for the sense of exploration, discovery, and danger that comes with every flight.

THE WALL



BABY BLUES



By Rick Kirkman & Jerry Scott



ZITS



By Jerry Scott & Jim Borgman