Zamonaviy to‘quv dastgohlarining texnologik imkoniyatlari va yo‘l-yo‘l naqshli to‘qimalarni loyihalash

Diyor Bahriddin-o‘g‘li Shamiyev
diyorbek0094@gmail.com
Jizzax politexnika instituti

Annotatsiya: Maqolada zamonaviy to‘quv dastgohlarining texnologik imkoniyatlari, ularning assortimentlik salohiyatini kengaytirish hamda yo‘l-yo‘l naqshli to‘qimalarni loyihalash masalalari tahlil qilingan. To‘quv jarayonini takomillashtirish, mikroprotsessorli boshqaruv tizimlaridan foydalanish va sifat nazoratini avtomatlashtirish orqali yuqori sifatli hamda raqobatbardosh mahsulotlar ishlab chiqarish imkoniyatlari asoslab berilgan.

Kalit so‘zlar: to‘quv dastgohi, rapirali dastgoh, mokisiz to‘quv, texnologik jarayon, naqshli to‘qima, assortiment, mikroprotsessorli boshqaruv, sifat nazorati

Technological capabilities of modern weaving machines and design of striped pattern fabrics

Diyor Bakhriddin-ugli Shamiev
diyorbek0094@gmail.com
Jizzakh Polytechnic Institute

Abstract: The article analyzes the technological capabilities of modern weaving looms, the expansion of their assortment potential, and the design of striped textiles. The possibilities of producing high-quality and competitive products by improving the weaving process, using microprocessor control systems, and automating quality control are substantiated.

Keywords: weaving loom, rapier loom, shuttleless weaving, technological process, patterned weaving, assortment, microprocessor control, quality control

Dunyo miqyosida to‘qimachilik bozorining hajmi 2023 yildan 2030 yilgacha yillik o‘sish sur’ati (CAGR) 7,6% ga o‘sishi kutilmoqda. Bu ko‘rsatkich to‘qimachilik sanoati mahsulotlarini ishlab chiqarishda, nafaqat texnologik jarayonlarni to‘g‘ri tashkil etish bilan bog‘liq, shuningdek, ishlab chiqariladigan mahsulotlarni loyihalash, sifat ko‘rsatkichlarini bashoratlash va amaliyotga joriy etishni taqozo etadi. Shu jihatdan, texnologik jarayonlarni takomillashtirishda jihoz

va uskunalarning texnologik imkoniyatlaridan unumli foydalanish muhim ahamiyatga ega hisoblanadi.

Respublikamiz Milliy iqtisodiyotida to‘qimachilik sanoati ulushini oshirish, to‘quv dastgohlarining texnologik imkoniyatlarini tahlil qilish orqali yangi turdagi to‘qima matolarini taxtlash ko‘rsatkichlarini ishlab chiqish va ilmiy tadqiqot natijalarini ishlab chiqarishga keng joriy etish yuzasidan keng qamrovli chora-tadbirlar amalga oshirilib, muayyan natijalarga erishilmoqda .

To‘quv dastgohlari, ularda to‘qima hosil qilish imkoniyatlari, turli to‘quv dastgohlarining asosiy mexanizmlari va ularni takomillashtirish, to‘qima sirtida to‘quv usuli bilan naqsh hosil qilish imkoniyatlari bo‘yicha S.Adanur, S.Maity, K.Singha, M.Abdelfattah, N.Gokarneshan, N.Jegadeesan, P.Dhanapal, J.Szosland, Z.Baolin, G.Yueyang, C.Ruiqi, N.G.Novikov, V.P.Sklyannikov, A.A.Martinova, O.S.Kutepov, G.V.Stepanov, E.A.Onikov, T.Yu.Kareva, Ye.N.Kartashova, M.V.Nazarova kabi bir qator taniqli xorijiy olimlar katta hissa qo‘shganlar.

Turli to‘quv dastgohlarida to‘qima hosil qilishda texnologik ko‘rsatkichlarni maqbullashtirish, dastgohlarning ayrim mexanizmlarini takomillashtirish, turli to‘qimalarning tuzilish ko‘rsatkichlari va to‘quv usulida badiiy bezash asosida yangi assortimentdagi to‘qimalar tarkibini shakllantirishga oid yurtimiz olimlaridan E.Sh.Alimboyev, O.A.Ahunbabayev, G.N.Valiyev, B.X.Baymuratov, A.D.Daminov, P.S.Siddiqov, B.K.Xasanov, S.S.Rahimxodjayev, D.N.Qodirova, S.A.Xamrayeva, U.T.Abdullayev, N.Sodiqova, M.Doniyorova, A.Daminov, X.Rasulov, N.Yusupova kabilar turli yillarda ilmiy tadqiqot ishlarini olib borganlar.

Olib borilgan ilmiy tadqiqotlar natijasida to‘quvchilik texnologiyasi va to‘quv dastgohlarini takomillashtish, turli maqsadlarda ishlab chiqarilgan to‘qimalarning tuzilishi hamda fizik-mexanik xossalarini yaxshilash borasida salmoqli natijalarga erishilgan.

Shu bilan birga to‘quvchilik jarayonida turli assortimentda matolar ishlab chiqarish sezilarli darajada rivojlanishiga qaramay, to‘quv dastgohlarining texnologik imkoniyatlarini tahlil qilish va yo‘l-yo‘l naqshli to‘qimalar loyihalash va ishlab chiqarishda hal etilishi lozim bo‘lgan masala va muammolar mavjudligini qayd etish lozim.

To‘qimaning sifati va uni nazorat qilish uskunalari, to‘qima nuqsonlari, zamonaviy saralash, tozalash va o‘lchash jarayonlari, to‘qima sifatini dastgohda avtomatik tekshirish masalalari, to‘qima milki va uni hosil qilish mexanizmlari, milktutgichlar, o‘ramali milk va uni hosil qiluvchi mexanizmlar to‘quv dastgohi unumdorligiga ta’sir qiluvchi omillar ham atroflicha ko‘rib chiqilgan. Zamonaviy to‘quv dastgohlarini markazlashgan boshqaruv-nazorat tizimi to‘g‘risida fikr yuritilib, bunday tizim to‘quv dastgohida to‘qima ishiab chiqarish jarayonida barcha texnologik omillami kompyuter xotirasiga kiritish, texnologik omillarni dastgohni

ishchi holatida ham nazorat qilish, assortimentga bog‘liq omillarni tez o‘zgartirish va nazorat qilish, turli xil ko‘rsatgichli to‘qimalarni dasturlash orqali ishiab chiqarish, o‘rilish diapazonini kattaligi, arqoq bo‘yicha to‘qima zichligini o‘zgartirish, markaziv moylash tizimi va dastgohdagi barcha omillarni umumiy boshqaruv markaziga uzatish kabi afzalliklarni berishi xulosa qilingan.

Zamonaviy rapirali to‘quv dastgohilarida arqoq rangini tanlash mikroprotsessor bilan boshqariladi. Arqoq tashlashning maksimal tezligi 1620 m/min bo‘lib, 0,77 teksdan 3333 teksgacha arqoq ipini tashlash imkoni bor. Rapiralarning harakati mikroprotsessor tomonidan boshqariladi va boshqa mexanizmlar bilan muvofiqlashtiriladi .

Zamonaviy to‘quv dastgohlarining assortimentlik imkoniyatlarini kengaytirish usullarini aniqlashga oid olib borilgan tadqiqotda zamonaviy mokisiz to‘quv dastgohlarida kulachokli homuza hosil qiluvchi mexanizmlarining assortiment imkoniyatlarini aniqlash usuli taklif qilingan.

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